

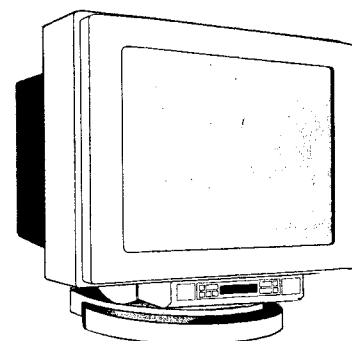
COMPAQ

FSR-871CV

MODEL

SERVICE MANUAL

Service
Service
Service



Service Manual

Horizontal frequencies
30 to 82 kHz

Contents

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1. Technical data

C2082DAS/BA**General**

- Mains voltage : 90 - 132V or 180 - 264V
- Mains frequency : 47 - 63Hz
- Power consumption : 180 W
- Operating temperature : 5°C to 40°C
- Weight : 37 kg
- Dimensions (H, W, D) : 485, 498, 538 mm
- Video signal : 0.714 Vp-p
75 Ω / high impedance
(selectable)

Sync. signal

- Separate sync. : TTL-level
- Composite sync. : TTL-level
- Composite sync. : on Green

Picture tube

- Size : 20 inch (trinitron)
- Light transmission : 39 %
- EHT voltage : 27,5 kVolt
- Pitch : 0.31 mm aperture grille pitch

Video

- Dot rate : 150 MHz
- Image area:
 - * horizontal : 387,2 mm
 - * vertical : 291,6 mm
- Vertical frequency : 50 - 160 Hz
- Vert. Sync. polarity : positive or negative
- Horizontal frequency : 30 to 82 kHz
- Hor. Sync. polarity : positive or negative

Preset modes

- Number of preset modes : 22 (14 factory presets)

* Technical data are subject to change without notice

C2182DAS/BA**General**

- Mains voltage : 90 - 132V or 180 - 264V
- Mains frequency : 47 - 63Hz
- Power consumption : 180 W
- Operating temperature : 5°C to 40°C
- Weight : 37 kg
- Dimensions (H, W, D) : 485, 498, 538 mm
- Video signal : 0.714 Vp-p
75 Ω / high impedance
(selectable)

Sync. signal

- Separate sync. : TTL-level
- Composite sync. : TTL-level
- Composite sync. : on Green

Picture tube

- Size : 21 inch (flat)
- Light transmission : 52 %
- EHT voltage : 27,5 kVolt
- Pitch : 0.28 mm

Video

- Dot rate : 150 MHz
- Image area:
 - * horizontal : 406,4 mm
 - * vertical : 304,8 mm
- Vertical frequency : 50 - 160 Hz
- Vertical sync. polarity : positive or negative
- Horizontal frequency : 30 to 82 kHz
- Horizontal sync. polarity : positive or negative

Preset modes

- Number of preset modes : 22 (14 factory presets)

* Technical data are subject to change without notice

Factory Preset Video Timings

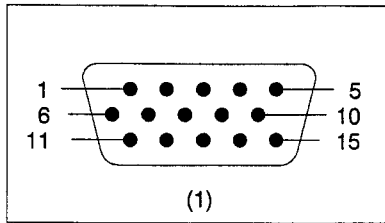
Item	Unit	1280*1024 64kHz / 60Hz	640*350 VGA mode 1	640*400 VGA mode 2	640*480 VGA mode 3	800*600 S-VGA std.
Pixel rate MHz	107.3	25.175	25.175	25.175	35.86	
Hor. freq. kHz	63.9	31.468	31.468	31.468	35.16	
Vert. freq. Hz	60	69.93	69.93	59.94	56.25	
Hor. resol.	dots	1280	640	640	640	800
Vert. resol.	H	1024	350	400	480	600
Period (hor.)	dots	1680	800	800	800	1020
Blanking dots	400	160	160	160	220	
Sync delay	dots	30	16	16	16	24
Sync width	dots	108	96	96	96	72
Interlace Y/N	N	N	N	N	N	
Period (vert)	lines	1065	450	450	525	625
Blanking lines	41	100	50	45	25	
Sync delay	lines	3	37	12	10	1
Sync width lines	3		2	2	2	
Sync on green	Y/N	Y	N	N	N	N
TTL H sync	±		+	-	-	+
TTL V sync	±		-	+	-	+
TTL comp sync	±					
Hor. width	mm	340	350	350	350	350
Vert. width	mm	272	263	263	263	263
Mem. channel	No.	1	2	3	4	5

Item	Unit	1024*768 VESA 3	1152*870 69kHz / 75Hz	832*624 Maclicx	800*600 VESA 1	1024*768 VESA 2
Pixel rate MHz	40	44.9	30.25	50	65	
Hor. freq. kHz	37.88	35.52	35.0	48.077	48.36	
Vert. freq. Hz	60.3	87/43.5	66.7	72.187	60	
Hor. resol.	dots	800	1024	640	800	1024
Vert. resol.	H	800	384/768	480	600	768
Period (hor.)	dots	1056	1264	864	1040	1344
Blanking dots	256	240	224	240	320	
Sync delay	dots	40	8	64	56	25
Sync width	dots	128	176	64	120	136
Interlace Y/N	N	Y	N	N	N	
Period (vert)	lines	628	409	525	666	806
Blanking lines	28	25	45	66	38	
Sync delay	lines	1	0/0.5	3	37	3
Sync width lines	4	4	3	6	6	
Sync on green	Y/N	N	N	Y	N	N
TTL H sync	±	+	+		+	+
TTL V sync	±	+	+		+	+
TTL comp sync	±					
Hor. width	mm	350	350	350	350	350
Vert. width	mm	263	263	263	263	263
Mem. channel	No.	6	7	8	9	10

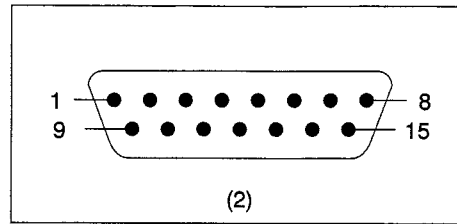
Item	Unit	1024*768 VESA 3	1152*870 69kHz / 75Hz	832*624 50kHz / 75Hz	1280*1024 81kHz / 76Hz	
Pixel rate MHz	75	100	57.28	135		
Hor. freq. kHz	56.47	68.68	49.7	81.13		
Vert. freq. Hz	70.07	75	75.18	76.1		
Hor. resol.	dots	1024	1152	832	1280	
Vert. resol.	H	768	870	624	1024	
Period (hor.)	dots	1328	1456	1152	1664	
Blanking dots	304	304	320	384		
Sync delay	dots	24	32	32	32	
Sync width	dots	136	128	64	104	
Interlace Y/N	N	N	N	N		
Period (vert)	lines	806	915	667	1066	
Blanking lines	38	45	43	42		
Sync delay	lines	3	3	1	2	
Sync width lines	6	3	3	8		
Sync on green	Y/N	N	Y	Y	N	
TTL H sync	±	+				
TTL V sync	±	+				
TTL comp sync	±					
Hor. width	mm	350	350	350	340	
Vert. width	mm	263	263	263	272	
Mem. channel	No.	11	12	13	14	

2. Connection facilities

Pin assignment 15p "D" shell
(3 rows)



Pin assignment 15p "D" shell
(2 rows)



CL36532020/020
200193

INPUT- OUTPUT SIGNALS

15 pins D-Shell connector

D-Shell adapter (3 rows to 2 rows)

Pin	Assignment	Sensitivity	Terminal impedance	Assignment	Sensitivity	Terminal impedance
1	Red Video input	RGB-analog	75Ω	Red ground		
2	Green Video input/ sync. on green	RGB-analog	75Ω	Red Video input/	RGB-analog	75Ω
3	Blue Video input	RGB-analog	75Ω	Composite sync.		2.2 Ωk
4	Ident output (connected to 10)			Sense 0		
5	Self test input (ground)			Green Video input (Sync. on green)	RGB-analog	75Ω
6	Red Video ground			Green ground		
7	Green Video ground			Sense 1		
8	Blue Video ground			Not connected		
9	Not connected (no pin)			Blue Video input	RGB-analog	75Ω
10	Logic ground			Sense 2		
11	Ident output (connected to 10)			Comp-sync and V-sync ground		
12	Not connected			V-sync		
13	Horizontal sync. (or Hor. + Vert. sync)	TTL Level L=0-0.8V H=2.4 -5V	2.2 Ωk pull down	Blue Video ground		
14	Vertical sync.	TTL Level L=0-0.8V H=2.4 -5V	2.2 Ωk pull down	H-sync ground		
15	Not connected (no pin)			H-sync		

3. Warnings and Notes

C2.82DAS/BA

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Warnings

1. Safety regulations require that the unit should be returned in its original conditions and that components identical to the original components are used. The safety components are indicated by the symbol .
2. In order to prevent damage to ICs and transistors, all high-voltage flash-overs must be avoided. In order to prevent damage to the picture tube, the method shown in Fig. 3.1 should be used to discharge the picture tube. Use a high-voltage probe and a multimeter (position DC-V). Discharge until the meter reading is 0 V (after approx. 30s).
3. **ESD** 
All ICs and many other semiconductors are sensitive to electrostatic discharges (ESD). Careless handling during repair can drastically shorten the life. Make sure that during repair you are connected by a pulse band with resistance to the same potential as the earth of the unit. Keep components and tools also at this same potential.
4. When repairing a unit, always connect it to the mains voltage via an isolating transformer.
5. Be careful when taking measurements in the high-voltage section and on the picture tube panel.
6. It is recommended that safety goggles are worn when replacing the picture tube.
7. When making settings, use plastic rather than metal tools. This will prevent any short-circuit and the danger of a circuit becomes unstable.
8. Never replace modules or other components while the unit is switched on.
9. Together with the deflection unit the picture tube is used as an integrated unit. Adjustment of this unit during repair is therefor not recommended.
10. After repair the wiring should be fastened once more in the cable clamps for this purpose.

Notes

1. The semiconductors indicated in the circuit diagram(s) and in the parts lists are completely interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.
2. The direct voltages and oscillograms are average voltages. They have been measured by using the service test software and under the following conditions:
 - Signal pattern : grey scale.
 - Mode: VGA (640 * 480) 31,5kHz/60Hz.
 - Contrast and Brightness to maximum.

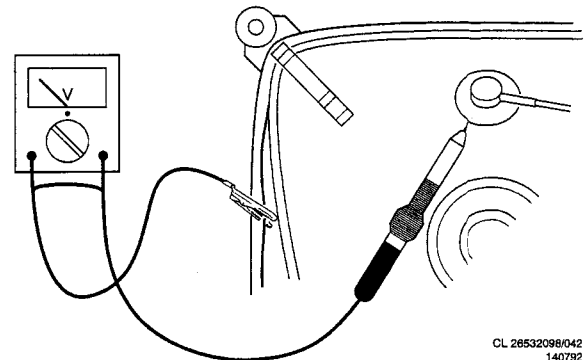


Fig. 3.1

4. Mechanical instructions

General

To be able to perform measurements on the circuit boards, the unit should be placed in the service position first.

For the location of the circuit boards and the item numbers mentioned in this chapter we refer to the exploded view drawing.

Rear cover, item 101

- Remove the screws, item 112 (4x)
- The rear cover can now be removed.

Top screening, item 37

- Loosen the screws item 24 (5x) a few turns.
- The screening can now be removed by sliding it back wards.

Screening left, item 5

- Loosen the screws item 8 (3x) a few turns.
- The screening can now be removed by swinging it to the left side.
- The PCB boards, "Main Panel", "Horizontal Sync. Panel", "Low Signal Panel" and "Degaussing Panel" are then reachable.

Screening right, item 51

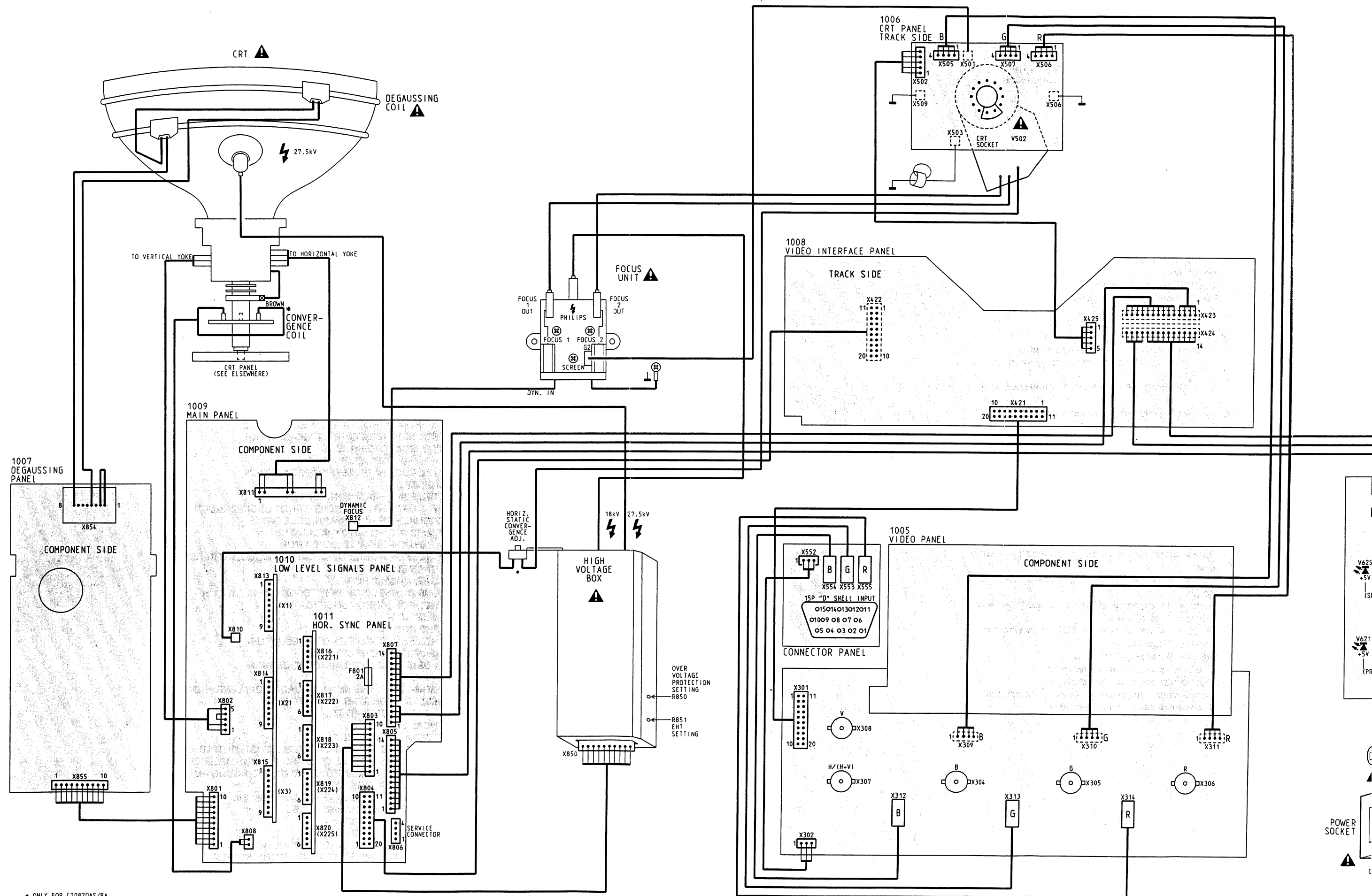
- Loosen the screws item 8 (3x) a few turns.
- The screening can now be removed by swinging it to the right side.
- The PCB Board, "Supply Panel" is then reachable.

Rear screening with input sockets, item 11

- Remove the screws item 10 (9x)
- The screening with input sockets can now be pulled backwards.
Remark: By leaving the wire trees connected, the monitor is still working.
- The PCB Boards, "Video Panel", "Connector Panel", "Video Interface Panel" and CRT Panel are then reachable.

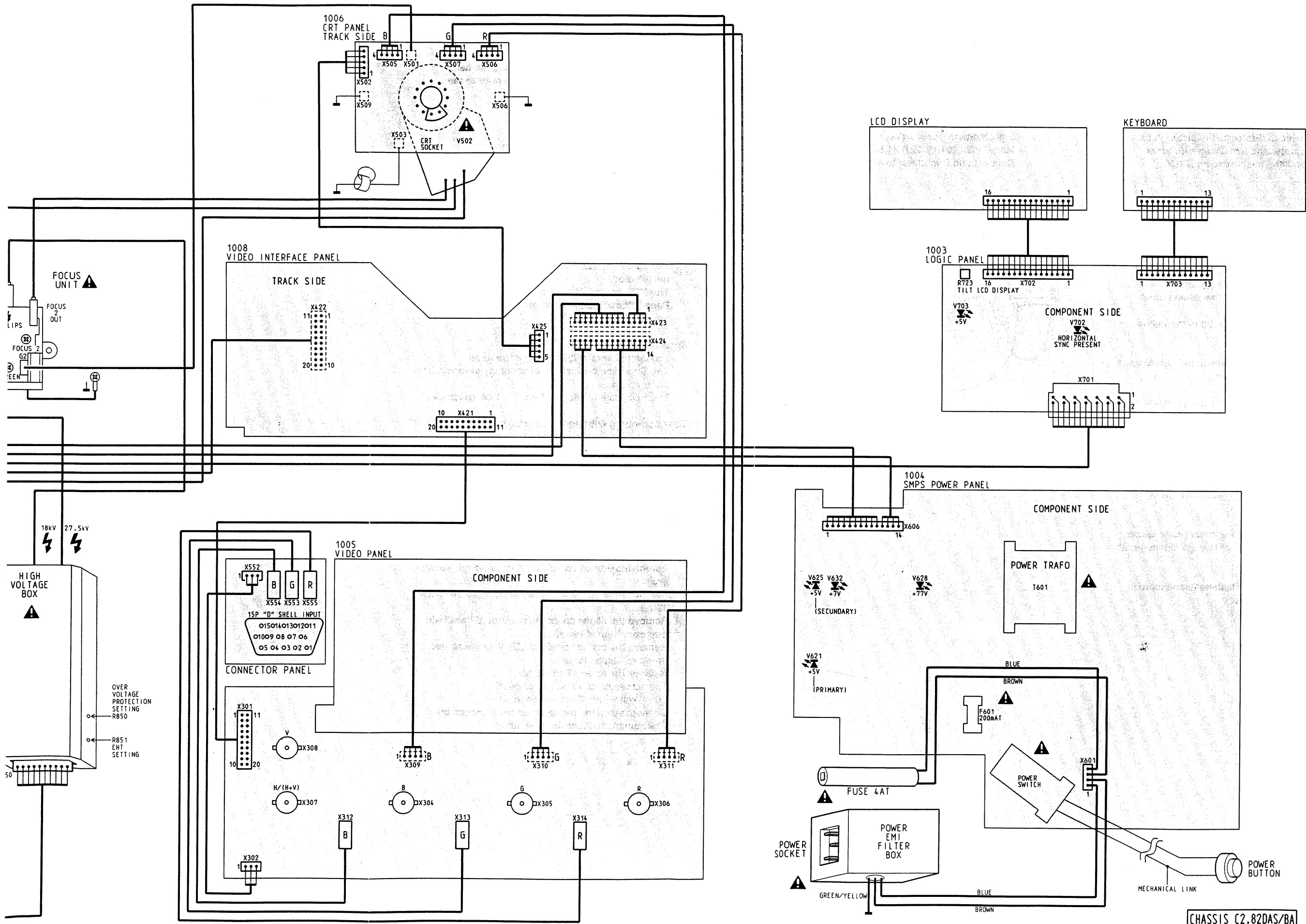
Digital Panel screening, item 44

- Put the monitor on one side (resting on High Voltage Box)
- Remove Pedestal item 118, by removing screws item 33 (2x).
- Remove the connector of the Key Board Panel wire tree from "Digital Panel".
- Remove the connector of the LCD Panel wire tree from the "Digital Panel".
- Remove the screws item 45 (2x).
- The screening can now be removed.
- The "Digital Panel" is now reachable.
- Connect again the previous removed connectors.
- The monitor can function now again



Wiring diagram

Wiring diagram



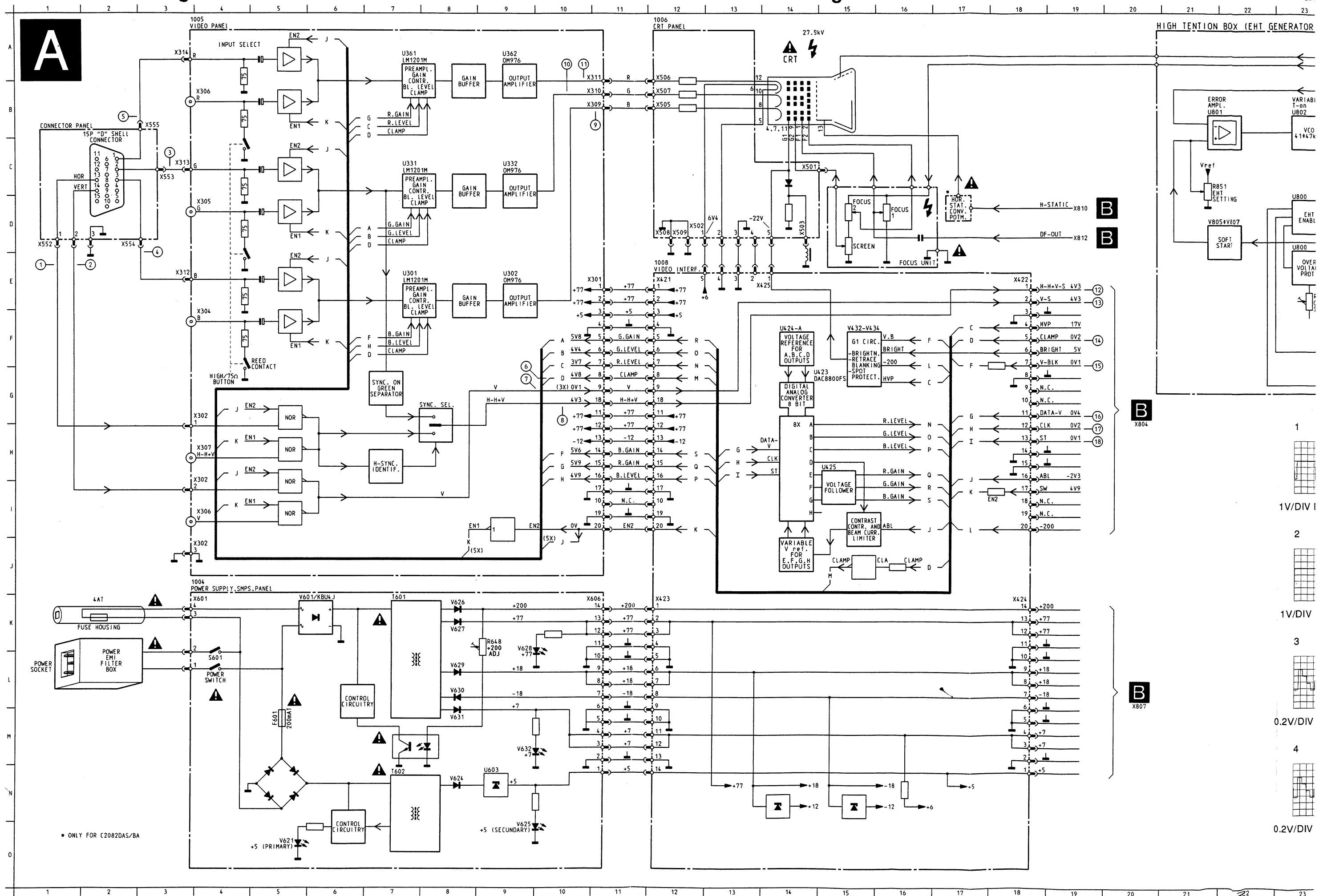
Functional block diagram

C2.82DAS/BA

6

Functional block diagram

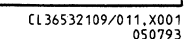
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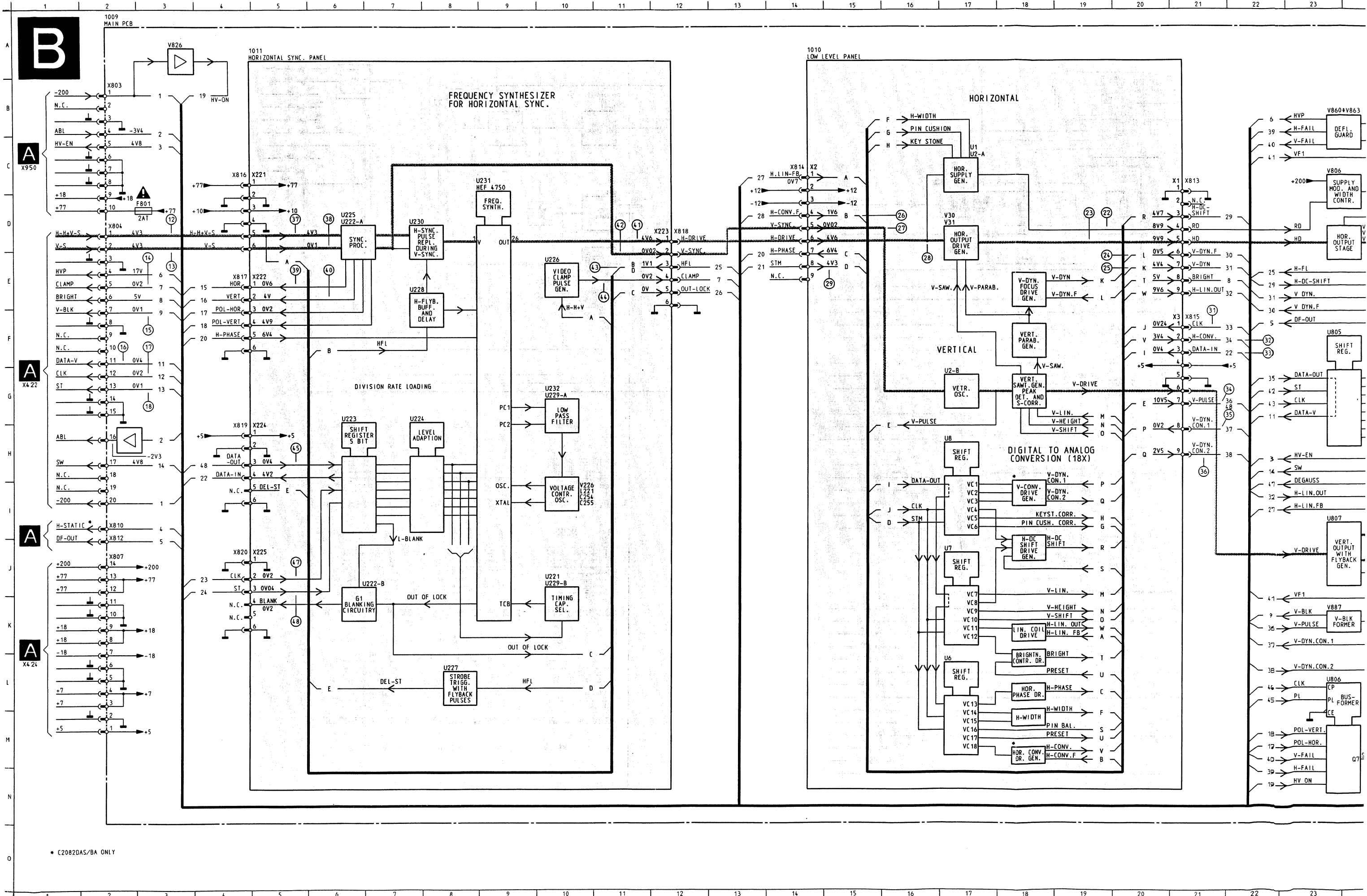


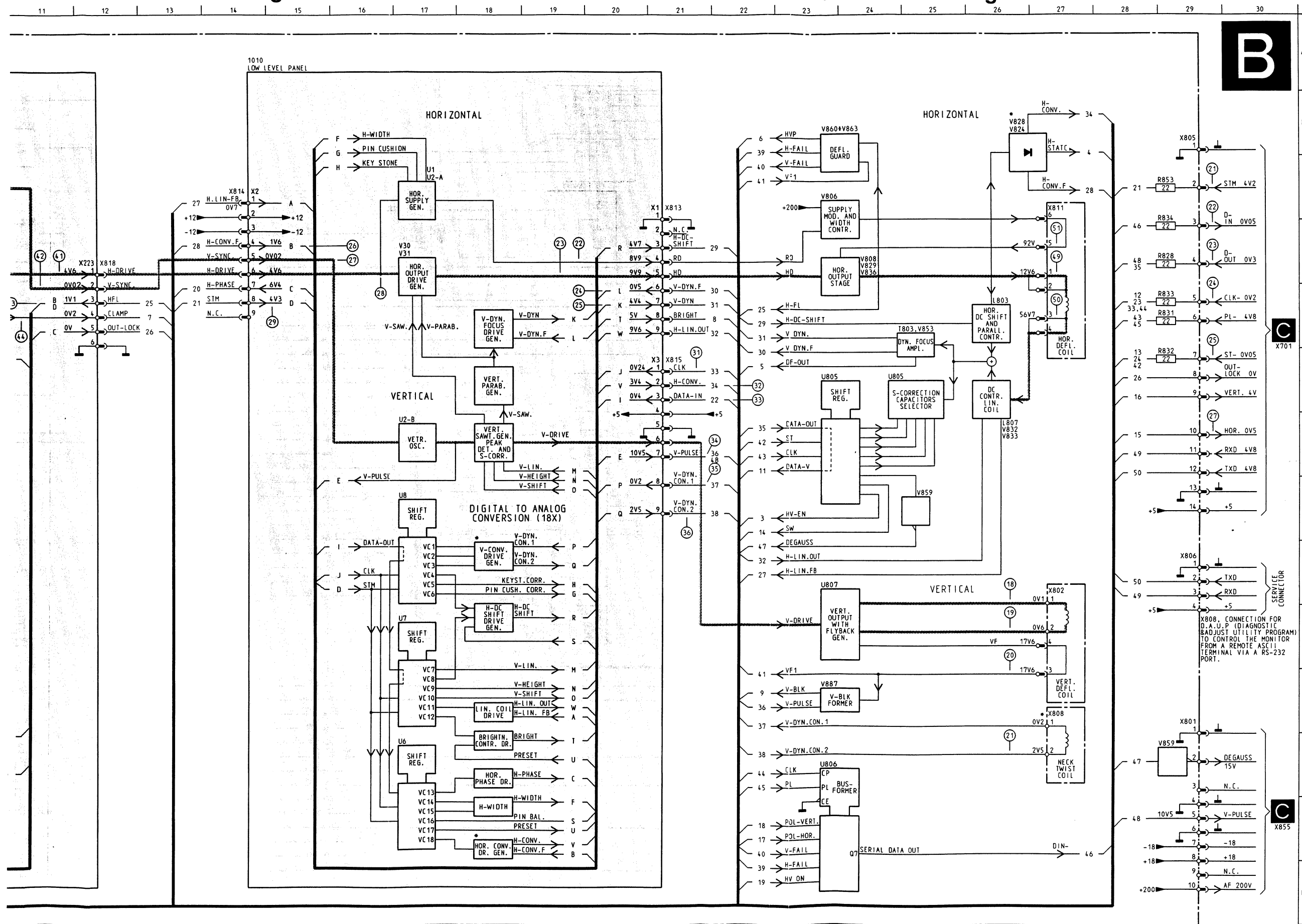
* ONLY FOR C2082DAS/BA



Functional block diagram



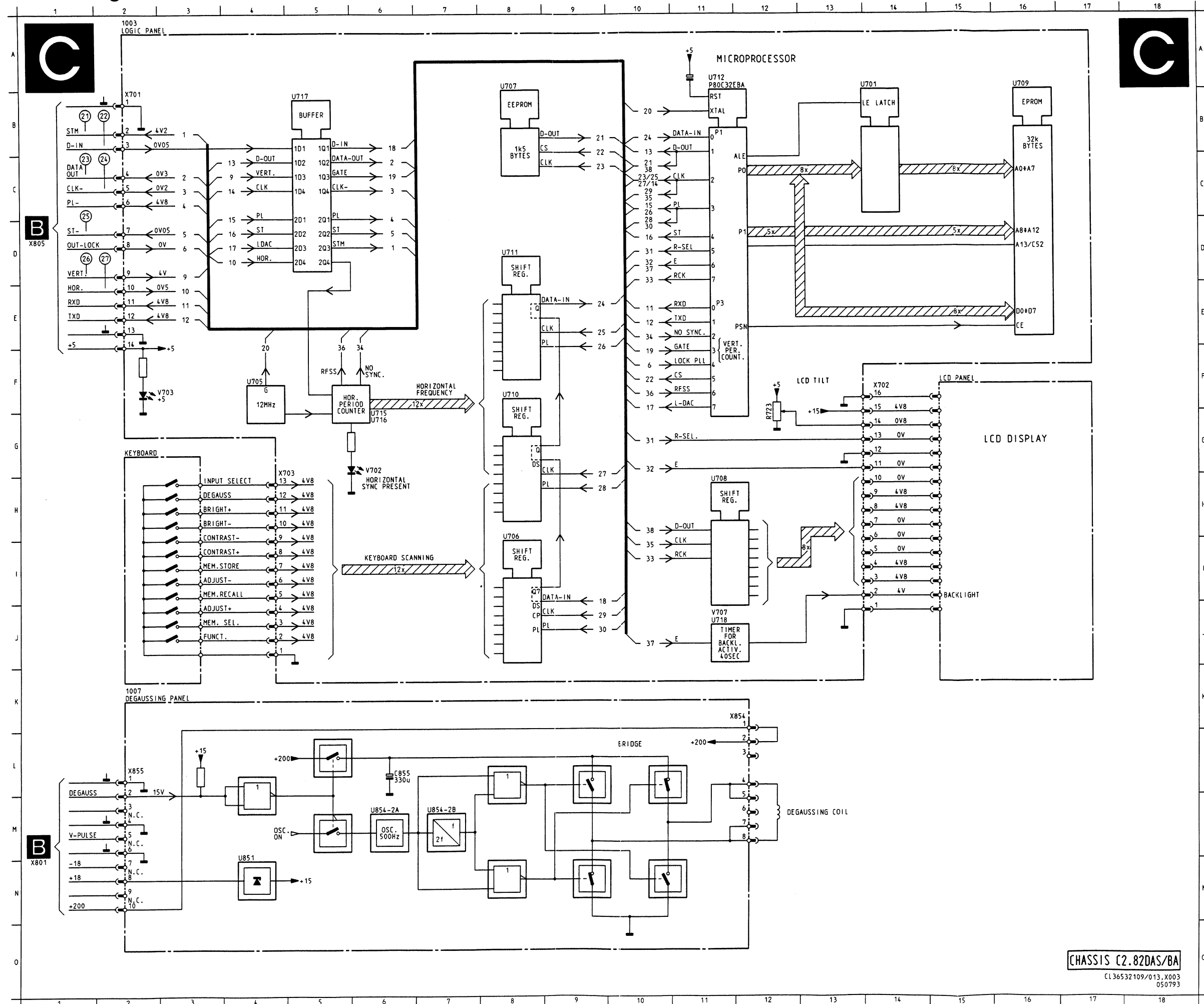




Functional block diagram

C2.82DAS/BA 8

Functional block diagram

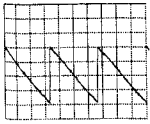


Abbreviations

AA1200V	: HORIZONTAL DEFLECTION YOKE (HOT)
AA200V/AE200V	: JUMPER ON H DEF. SUPPLY VOLTAGE
ABL	: BEAM CURRENT INDICATION FOR BEAM LIMITER CIRCUIT (-1V/0.1mA)
AG200	: HORIZONTAL DEFLECTION YOKE
BLANK	: LOGICAL BLANK SIGNAL ACTING ON HVP SIGNAL (ACTIVE HIGH)
BRIGHT	: DC NEGATIVE VOLTAGE FOR G1 CONTROL (BRIGHTNESS)
CLAMP	: BACKPORCH SIGNAL FOR VIDEO AMP. DC RESTORATION
CLK	: CLOCK SIGNAL
DATA-IN	: SERIAL DATA SIGNAL FOR THE MC14410 DACs
DATA-OUT	: SERIAL DATA OUT
DATA-V	: SERIAL DATA FOR VIDEO DACs
DATIN	: SERIAL DATA INPUT
DATOUT	: SERIAL DATA OUTPUT
DEGAUSS	: ONE-SHOT SIGNAL FOR DEGAUSSING CIRCUIT
DEL-ST	: DELAYED STROBE FOR S-CORRECTION CAPACITOR LOADING
DF OUT	: DYNAMIC FOCUS OUTPUT
DIN-	: SERIAL DATA TO LOGIC BOARD
E	: ENABLE
EN1/EN2	: COMPLEMENTARY SIGNAL FOR VIDEO INPUT SELECTION (ACTIVE HIGH)
GATE	: SIGNAL AT HALF VERTICAL FREQ. FOR PERIOD MEASUREMENT
H1	: D-SUB HORIZONTAL OR COMPOSITE SYNC INPUT
HD	: DRIVE SIGNAL FOR HORIZONTAL OUTPUT STAGE
H-DRIVE	: HORIZONTAL OSCILLATOR OUTPUT
HFL	: HORIZONTAL RETRACE PULSE (FROM POWER STAGE)
H-H+V	: BNC HORIZONTAL OR COMPOSITE SYNC INPUT
H-H+V-S	: SELECTED HORIZONTAL OR COMPOSITE SYNC
HOR	: HORIZONTAL SYNC (TO LOGIC BOARD)
H-PHASE	: DC CONTROL FOR HORIZONTAL OSCILLATOR PHASE ADJUSTMENT
HV-EN	: ENABLE SIGNAL FOR HIGH VOLTAGE GEN. (ACTIVE HIGH)
HV-ON	: HIGH VOLTAGE STATUS INDICATION (+5V IF ON)
HVP	: DEFLECTION FAIL SIGNAL ACTING ON G1 CIRCUIT (ACTIVE LOW)
H.CONV	: DC CONTROL FOR HORIZONTAL STATIC CONVERGENCE
H.CONV.F	: FEEDBACK FROM HORIZONTAL STATIC CONVERGENCE AMPLIFIER
H.DC SHIFT	: DRIVE SIGNAL FOR RASTER CENTERING
H.FAIL	: HORIZONTAL DEFLECTION STATUS (+5V IF ON)
H.LIN-FB	: FEEDBACK FROM HORIZONTAL LINEARITY COIL
H.LIN-OUT	: DC CONTROL FOR HORIZONTAL LINEARITY COIL
H.STATIC	: HORIZONTAL CONVERGENCE OUTPUT
LDAC	: LOAD SIGNAL FOR GEOMETRY DAC,S
LOCKPLL	: HORIZONTAL OSCILLATOR STATUS INDICATION
N.C.	: NOT CONNECTED
NOSYNC	: HORIZONTAL SYNC STATUS INDICATION
OUT-LOCK	: HORIZONTAL OSCILLATOR LOCKED / NOT LOCKED INDICATION
PL	: STROBE SIGNAL FOR U806 (PARALLEL LOAD)
POL-HOR	: HORIZONTAL SYNC POLARITY INDICATION
POL-VER	: VERTICAL SYNC POLARITY INDICATION
RD	: DRIVE SIGNAL FOR HORIZONTAL SUPPLY MODULATOR (V806)
RFSS	: FLIP-FLOP RESET SIGNAL
RXD	: RECEIVE DATA (RS232 PORT)
R.RELE	: REED RELAYS CONNECTION FOR TERMINATION SWITCH
R/G/B GAIN	: DC CONTROL FOR VIDEO AMPLIFICATION
R/G/B IN 1	: BNC VIDEO INPUTS
R/G/B IN 2	: D-SUB VIDEO INPUTS
R/G/B LEVEL	: DC CONTROL FOR VIDEO CUT-OFF ADJUSTMENT
R/G/B OUT	: VIDEO AMPLIFIERS OUTPUT TO CRT
RSEL	: LCD DATA DRIVE (OUTPUT MICROPROCESSOR)
ST	: STROBE SIGNAL
STM	: STROBE SIGNAL FOR THE MC14410 DACs (LOW LEVEL BOARD)
SW	: INPUT SELECTION (BNC/D-SUB) CONTROL
TXD	: TRANSMIT DATA (RS232 PORT)
V	: BNC VERTICAL SYNC INPUT
V1	: D-SUB VERTICAL SYNC INPUT
V-DRIVE	: DRIVE SIGNAL FOR THE VERTICAL DEFLECTION OUTPUT STAGE
VDYN	: DRIVE SIGNAL FOR VERTICAL DYNAMIC FOCUS AMPLIFIER
VDYNF	: FEEDBACK SIGNAL FROM VERTICAL DYNAMIC FOCUS AMPLIFIER
VERT	: VERTICAL SYNC (TO LOGIC BOARD)
VF	: VERTICAL FLYBACK (CALLED VF1 AFTER THE JUMPER ON YOKE CONN.)
V-PULSE	: RAMP GENERATOR DISCHARGE PULSE
V-S	: SELECTED VERTICAL SYNC
VY1,VY2	: VERTICAL DEFLECTION YOKE
V.BLK	: SIGNAL FOR VERTICAL RETRACE SUPPRESSION
V.DYN.CON.1	: VERTICAL CONVERGENCE FEEDBACK (FROM NECK TWIST COIL)
V.DYN.CON.2	: VERTICAL CONVERGENCE DRIVE
V.FAIL	: VERTICAL DEFLECTION STATUS
V.SYNC	: VERTICAL SYNC (AFTER PASSING SYNC PROCESSING CIRCUIT)

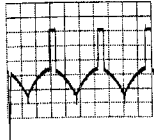
Wave forms diagram B and C

18B X802-1



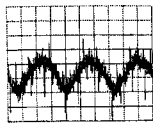
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25 X813-7



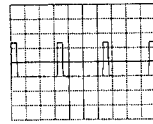
1V/DIV AC 5mS/DIV

32 X815-2



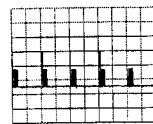
0.1V/DIV AC 2mS/DIV

39 X817-1



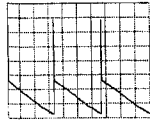
2V/DIV AC 5mS/DIV

47 X820-2



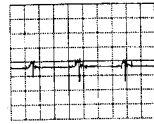
2V/DIV AC 5mS/DIV

19 X802-2



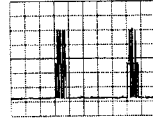
10V/DIV AC 5mS/DIV

26 X814-4



0.1V/DIV AC 10μS/DIV

33 X815-3



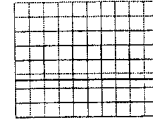
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40 X817-2



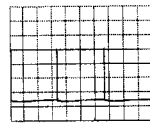
2V/DIV AC 5mS/DIV

48 X820-3



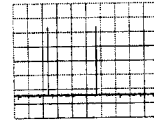
2V/DIV AC 5mS/DIV

20 X802-3



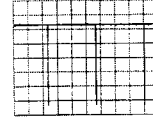
10V/DIV AC 5mS/DIV

27 X814-5



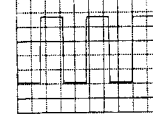
1V/DIV AC 5mS/DIV

34 X815-7



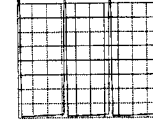
2V/DIV AC 5mS/DIV

41 X818-1



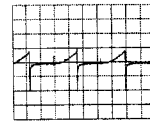
2V/DIV AC 10μS/DIV

49 X811-1



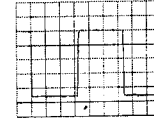
0.1kV/DIV DC 10μS/DIV

21 X808-2



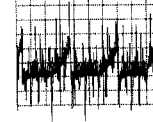
2V/DIV AC 5mS/DIV

28 X814-6



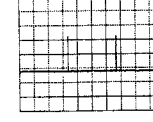
2V/DIV AC 5μS/DIV

35 X815-8



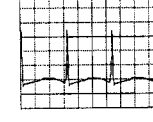
50mV/DIV AC 5mS/DIV

42 X818-2



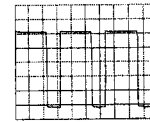
2V/DIV AC 5mS/DIV

50 X811-3



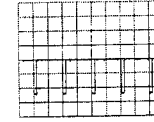
50V/DIV AC 10μS/DIV

22 X813-4



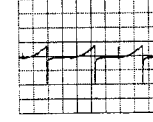
2V/DIV AC 10μS/DIV

29 814-8



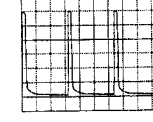
2V/DIV AC 5mS/DIV

36 X815-9



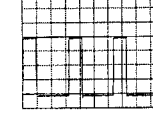
2V/DIV AC 5mS/DIV

43 X818-3



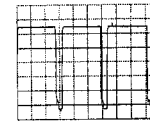
2V/DIV AC 10μS/DIV

51 X811-5



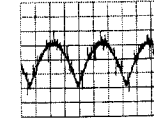
50V/DIV AC 10μS/DIV

23 X813-5



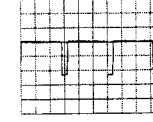
2V/DIV AC 10μS/DIV

30 X814-9



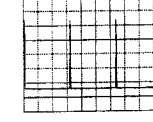
0.2V/DIV AC 5mS/DIV

37 X816-5



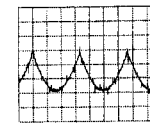
2V/DIV AC 10μS/DIV

44 X818-4



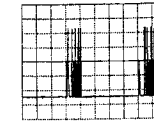
2V/DIV AC 10μS/DIV

24 X813-6



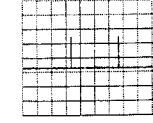
0.5V/DIV AC 5mS/DIV

31 X815-1



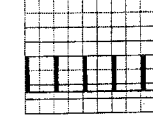
1V/DIV AC 2mS/DIV

38 X816-6



2V/DIV AC 5mS/DIV

45 X819-3



2V/DIV AC 5mS/DIV

7. Electrical adjustments

ADJUSTMENTS NEEDED AFTER REPLACEMENT OF A F.R.U. (FIELD REPLACEMENT UNIT)

General

In general, after swap a board (F.R.U.), no service adjustments are necessary. Only in some worst case situations and after CRT replacement readjustments have to be executed. Due to the fact that nearly all adjustments as chromaticity, geometry and convergence are controlled via the soft-ware program of the internal microcomputer and not can be changed by the external keys, external software for readjustments is available. This test software available on floppy can be applied to the monitor via a computer with RS232 output port. Also a special connection cable is needed to connect the computer to a special socket (X806) on the Main Panel.

The service code number for the floppy with printed user guide is 4822 727 19992. The service code for the special connection cable is 4822 321 61833.

1. Logic Panel

Remark: For reason of standardisation the Logic panel listed on parts list is supplied without Eeprom item U709. In case of replacement of the Logic Panel, the original Eeprom (if not defect) or a new Eeprom can be mounted. For the service code number of the Eeprom see also parts list.

- In case of replacement of the logic Panel, there is the possibility to place on the new Panel the EEprom (U707), original mounted on the defective Panel. In that case there is no need to make readjustments, because this EEprom contains all the original monitor set up adjustments.
- If there is not above mentioned possibility, it is necessary to make a new monitor set up, including geometry, chromaticity and memory channels adjustments.
- LCD polarisation (tilt) adjustment, R723. Adjust R723 for optimum character view. Remark: R723 is reachable via a hole in the bottom of the front mask.

2. Power Panel

- No adjustments. R648 (+200 adjustment) is already factory adjusted.

3. Video panel

- Basically no adjustments necessary. But check for sure the chromaticity adjustments.

4. Video interface Panel

- Basically no adjustments necessary. But check for sure the chromaticity adjustments.

5. Degaussing Panel

- No adjustments.

6. Main Panel

- Geometry adjustments

7. High Voltage Box

- No adjustments. R850 (over voltage protection setting) and R851 (EHT setting) are already factory adjusted.

8. C.R.T.

- Geometry adjustments
- Focus adjustments
- Chromaticity adjustments
- Horizontal and Vertical convergence adjustments

8. Repair tips

TROUBLE SHOOTING VIA DISPLAY MESSAGES

PROBLEM

Power indicator does not turn ON when you turn ON the monitor.

Solution:

Power cord is not connected to the power source. No power in that wall outlet.

Monitor or fuse are faulty.

PROBLEM

One or two colors are missing.

Solution:

Video signal cables (red, blue or green) have not been connected properly.

PROBLEM

Colored spots appear on the monitor screen (bad colore purity).

Solution:

Press the degauss button.

Electromagnetic interference present. Move any electromechanical device away from the monitor.

LCD MESSAGE INDICATES - MODE NOT FOUND

It means that the current timing has not been previously stored. The monitor is nonetheless working properly.

Solution:

The monitor will automatically choose a free channel. You may store your timing on this channel or continue working.

LCD MESSAGE INDICATES - H SYNC OFF or V SYNC OFF or H & V SYNC OFF

It means that the video cable connections are not properly made.

Solution:

See sheet "connection facilities"

If the problem is not solved please check your graphic card.

Please verify the "input selection".

LCD MESSAGE INDICATES - V OUT OF RANGE

It means that the monitor does not recognize the vertical frequency of your graphic board.

Solution:

Please verify that your graphic card operates within the 50 to 160 Hz range of your monitor.

LCD MESSAGE INDICATES - H OUT OF RANGE

It means that the monitor does not recognize the horizontal frequency of your graphic board.

Solution:

Please verify that your graphic card operates within the 30 to 82 kHz range of your monitor.

LCD MESSAGE INDICATES - PLL UNLOCKED

It means that the logic board inside the monitor is defective.

LCD MESSAGE DISPLAYS - V DEF. FAILURE

It means that there is a local failure in the vertical deflection.

LCD MESSAGE DISPLAYS - H DEF. FAILURE

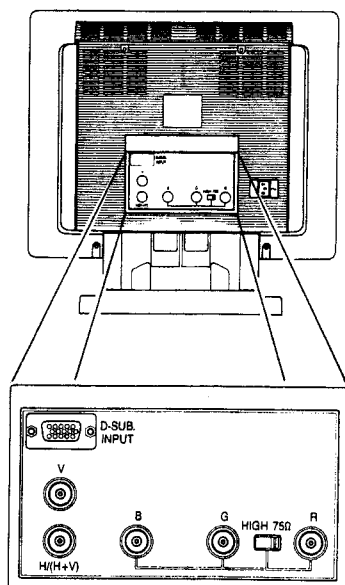
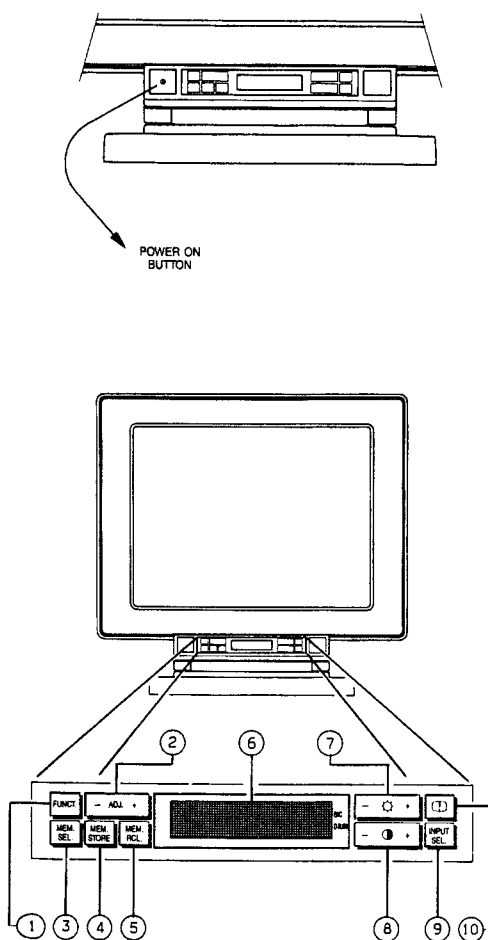
It means that there is a local failure in the horizontal deflection.

LCD MESSAGE DISPLAYS - HI VOL. FAILURE

It means that there is a local failure in the high voltage generator.

9. Directions for use

Control, in/output loc



Front controls

- Power button

1 **FUNCT.**

By pressing repeatedly this button the following parameters can be selected:

- * Horizontal phase
- * Width
- * Vertical shift
- * Height
- * Vertical convergence
- * Horizontal convergence
- * Color temperature
- * Pincushion
- * Pincushion Balance
- * Trapezoidal
- * Trapezoidal Balance

2 **- ADJ. +**

This button allows you to regulate a chosen parameter. On the LCD an adjustment scale of 0 to 9 will be displayed.

3 **MEM.SEL.**

This button is used to memorize or recall a specified timing.

4 **MEM.STORE.**

This button is used to memorize a channel.

5 **MEM.RCL.**

The Memory Recall button is used to reset the monitor to the default settings of a specific channel.

6 **LCD display**

7 **- ☀ + : Brightness control**

8 **- ● + : Contrast control**

9 **INPUT SEL.**

This button allows you to select the "video input". The options are "BNC" or "D-SUB".

10 **Manual Degauss button.**

Rear view

- 5 BNC input connectors
 - * R : red analog video
 - * G : green analog video + combined sync signal.
 - * B : blue analog video
 - * H/H+V : horizontal or composite sync signal.
 - * V : vertical sync signal.
- Mini D-SUB 15 pin connector
- high/75Ω impedance switch
- Power cord connector

LCD MESSAGE DISPLAYS - GEN. FAILURE

It means that 2 or more failures have been detected at the same time.

TROUBLE SHOOTING BACKGROUNDS

When you are facing a problem, first of all try to understand which kind of problem it is and where it is coming from.

If you can see a picture on the screen, usually you should be able to understand the problem looking at the screen itself and take the appropriate corrective actions. When you find a problem looking at the screen, before changing any PCB, check if it is possible to solve the problem by readjusting the related controls. Many times, when you see the picture, the problem is not real failure but only a misadjustment since in most cases of failure (or uncorrect operation) a protection circuit will blank the screen.

The monitor has a built in self diagnostic test performed by the Logic board which is able to check if some important circuits are properly working, such as deflections, EHT, and in case of failure an error message is displayed on the front panel LCD.

Additional diag. indicators are the LED placed on the Power supply.

By following the herebelow procedure, you should be able to find the defective board to be replaced.

A) AFTER TURNING THE MONITOR ON, THE CRT IS BLANKED BUT THE LCD IS LIGHTED.

- This means that the mains power is connected and the separated +5V switch mode power supply is working.

At this moment, you should read on the LCD one of the following error messages:

1) H/V or HOR. or VERT. SYNC. OFF

- This means that the displayed type of sync. is missing; check the connections between monitor & video generator and check if the selected video input (BNC's or D-SUB) is the right one.
If everything seems to be OK, check the internal cabling between Video, Video Interface, Main & Logic board. If the cabling is OK, the Video board is suspected to be failed.

2) H.DEF. FAILURE

- This means that the horizontal deflection is missing, nevertheless the vertical deflection is working and so the power supply output short circuit protection hasn't been activated.

In this case you should check the deflection yoke connection (X811) and if all the supply voltages, especially the +200V, are present on the Main board (X807).

If all seems to be OK, the Main board is suspected.

3) V.DEF. FAILURE

- Same meaning and procedure as point 2).

4) HI.VOL. FAILURE

- This means that the High Voltage that supplies the CRT is missing, nevertheless both horizontal & vertical deflections are properly working.
In this case, first of all try to recover the problem by switching the monitor off and on again because the overcurrent protection of the High Voltage generator could be activated by a flashover discharge or really

by a too high beam current (for example if the video input termination switch is in the wrong position); if this does not solve the problem, check the connection between the High Voltage generator box and the fuse F801 placed on the Main board. If all seems to be OK, the High Voltage generator is suspected.

5) GEN.(general) FAILURE

- This means that at least two of the above mentioned failures have been detected at the same time. It can happen when a local failure cause a short circuit on one or more supply voltages, activating in this way the protection of the power supply so that also the non-failed circuits cannot work or when the power supply itself is bad, or when a supply voltage is missing on the Main board. In this case, you should proceed in this way:

- Check the LED placed on the power supply. V621 must be on because if you can see the LCD message the separated circuit which supplies the +5V must be working.
If also the other 3 LEDs are on, means that also the main power supply is working. In this case check if any supply voltage is missing on the Main board (due to the cabling); if not, the Main board is suspected.

if the other 3 LEDs are off or blinking, disconnect the Power supply output connector X606 and check the LED again: if they are still off, the Power supply is suspected.

If they are on, means that with X606 connected the SMPS overcurrent protection is activated because there is a short circuit on one of the supply rails. In this case, plug in again X606 and disconnect one at a time the supply connectors of all the other boards, following this order: Degauss board, EHT generator, Main board, Video board, Video Interface board. When the Power supply starts working, the PCB which has been disconnected is bad.

B) AFTER TURNING THE MONITOR ON, THE CRT IS BLANKED AND THE LCD IS OFF

In this case, check the LEDs on the Power supply.

1) All the LEDs are off:

check all the connections between the EMI filterbox, mains switch, main fuse (check the fuse itself) and the Power supply board: if all looks correct, replace the Power supply.

2) Only the LED V621 (+5V Indicator) is off:

unplug the power supply connector X606 and check again the LED status

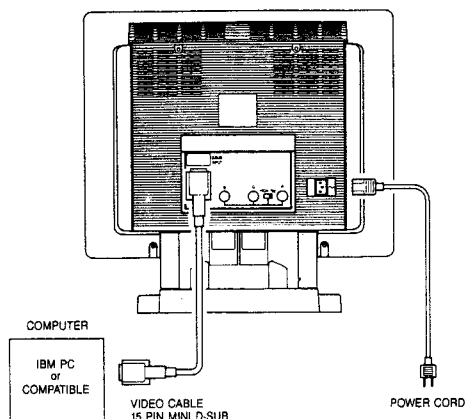
- if it is still off, replace the Power supply
- if it is on, means that there is a short circuit on the +5V line; in this case apply the procedure described at paragraph "GEN FAILURE" indication in order to find the defective board.

3) All the LEDs are on:

check if the +5V supply voltage is present on the Main board (X807) and if the cabling between the Main board itself and the Logic board is correct; if yes, the Logic board and/or the LCD assembly is suspected.

Connection facilities

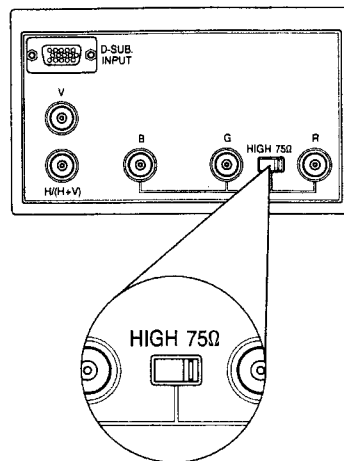
Connecting the monitor to an IBM PC or compatible with a normal VGA graphics card.



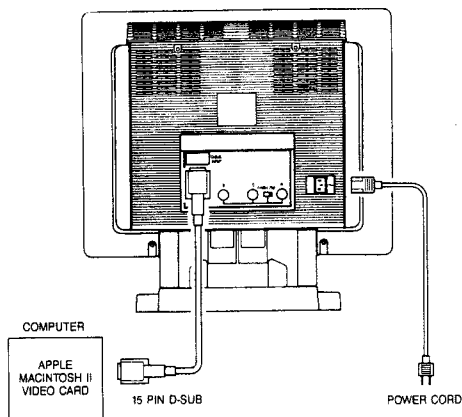
The HIGH/75Ω switch

The switch is used only when you wish to connect more than one monitor to your graphics card.

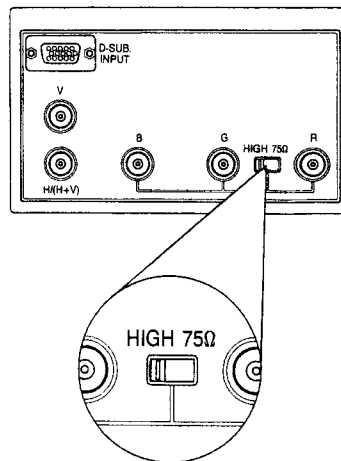
If you are connecting only one monitor to your graphics card, the switch has to be positioned to "75Ω".



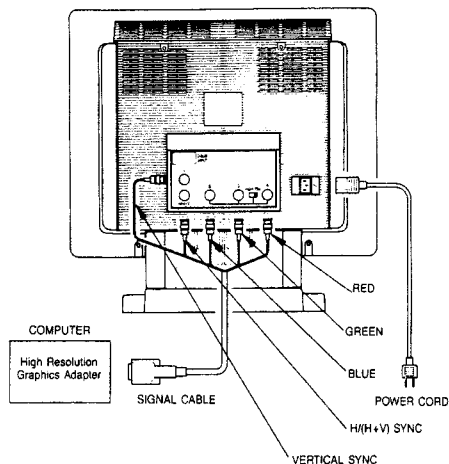
Connecting the monitor to an Apple computer with a MACII video card.



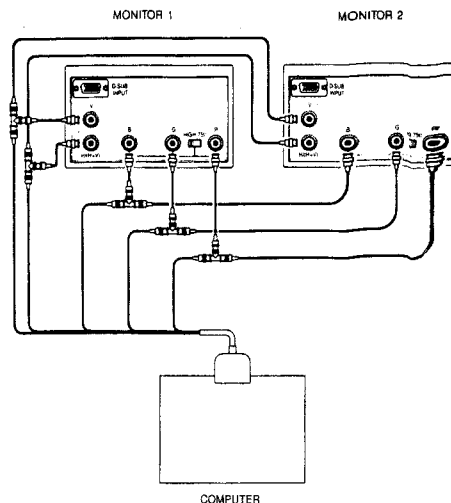
If you are planning to connect more than one monitor to your graphics card, the switch has to be positioned to "high".



Connecting the monitor to a computer with a high resolution graphics card.



If you are using a "T-BNC" connector to connect 2 monitors together, the last monitor must have the switch in "75Ω" position. Direction for use



How to use the front controls.

Note: the LCD light will switch itself off automatically after approximately 30 seconds.
By pressing the brightness or contrast button the LCD light will switched on.

1. Switch on the monitor

Important: At power on, the LCD will display for 1 to 2 seconds the message "WAIT.... START UP" and then for 1 to 2 seconds the message "F/W Release ..(number)". The message "TEST IN PROGRESS" will also be displayed for 2 to 3 seconds to allow the monitor complete all internal checks. If an error is detected an appropriate message will be displayed. If not, the LCD will display "Mode not Found", which means that the timing displayed is not known to the monitor (i.e. not in the memory). At this stage it is needed to memorize the used timing on a free "video mode". If the timing used by the computer is already known to the monitor, the LCD will automatically display the "video mode" that timing is memorized on.

If proper connection is not established within 10 seconds, the LCD will display a "failure message".
If there is a problem at this stage please consult the troubleshooting section.

2. Funct. button

By pressing repeatedly this button it is possible to adjust the next parameters;

- horizontal phase
- width
- vertical shift
- height
- vertical convergence
- horizontal convergence
- colour temperature
- pincushion
- pincushion balance
- trapezoidal
- trapezoidal balance

The above mentioned sequence cannot be changed, but it is possible to go backwards by pressing repeatedly the "MEM. STORE" button.

The horizontal phase, the width, the vertical shift and the height can be set for each specific channel. All other functions are related to the whole monitor.

2.1 Horizontal phase

A scale of 0 to 9 is available by pressing the "- ADJ +" button. By pressing "-", the hole picture will move horizontally to the left. By pressing "+", the whole picture will move to the right.

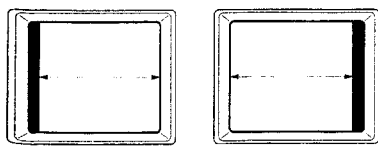


Fig. 2.1

2.2 Width

A scale of 0 to 9 is available by pressing the "- ADJ +" button. By pressing "-", the horizontal width of the picture will be reduced. By pressing "+", the horizontal width of the picture will be enlarged.

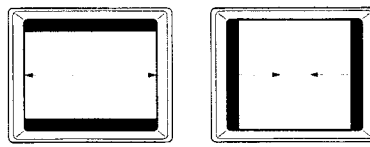


Fig. 2.2

2.3 Vertical shift

A scale of 0 to 9 is available by pressing the "- ADJ +" button. By pressing "-", the picture will move downwards. By pressing "+", the picture will move upwards.

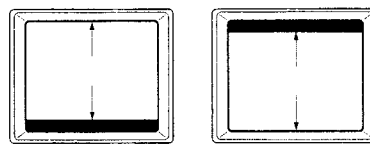


Fig. 2.3

2.4 Height

A scale of 0 to 9 is available by pressing the "- ADJ +" button. By pressing "-", the vertical height of the picture will be reduced. By pressing "+", the vertical height of the picture will be enlarged.

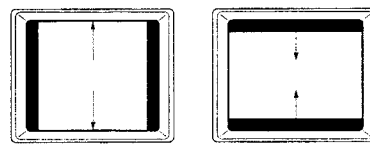


Fig. 2.4

At this stage, if needed to memorize the image settings in a specified "video mode", go to point 5 and 6.

2.5 Vertical convergence*

A scale of 0 to 9 is available by pressing the "- ADJ +" button. By pressing "-" or "+" the convergence of the horizontal lines can be adjusted. With these commands it is possible to move the RED and BLUE beams while the GREEN beam is keeping constant.

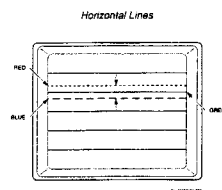


Fig. 2.5

2.6 Horizontal convergence*

A scale of 0 to 9 is available by pressing the "- ADJ +" button. By pressing "-" or "+" the convergence of the vertical lines can be adjusted. With these commands it is possible to move the RED and BLUE beams while the GREEN beam is keeping constant.

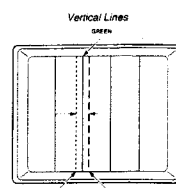


Fig. 2.6

* C2082DAS/BA only

2.7 Colour temperature

There are 3 possibilities to change the colour temperature by pressing "- ADJ. +" The colour temperature 1 is the factory setting at 9300 K° and colour temperature 2 is preset at 6500 K°. The colour temperature 3 can be set by the user;

- pressing the "- ADJ. +" button until the LCD displays "Color Temp. 3" and then by pressing the "Funct." button.
- "Red Adjust" will be displayed in the LCD;
A scale of 0 to 9 is available by pressing the "- ADJ. +" button. By using this command it is possible to increase the amount of red displayed in the screen.
- press "Funct." again and "Green Adjust" will be displayed in the LCD;
A scale of 0 to 9 is available by pressing the "- ADJ. +" button. By using this command it is possible to increase the amount of green displayed in the screen.
- press "Funct." again and "Blue Adjust" will be displayed in the LCD;
A scale of 0 to 9 is available by pressing the "- ADJ. +" button. By using this command it is possible to increase the amount of blue displayed in the screen.

If there is a wish to re-adjust any of the above colours just press the "Funct." button. After finishing just press the brightness or contrast button to exit these commands. Important: to memorize the colour temperature 3, please wait for 30 seconds before re-adjusting the monitor.

Note: the use of primary colour blue on a dark background is not recommended (bad legibility may cause eyestrain due to low character contrast).

2.8 Pincushion

A scale of 0 to 9 is available by pressing the "- ADJ +" button. By pressing "-" or "+" it is possible to adjust the pincushion until the right and left side of the picture become linear or straight.

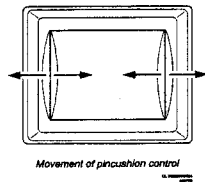


Fig. 2.8

2.9 Pincushion balance

This control is to be used only when one side of the monitor needs to be adjusted.

A scale of 0 to 9 is available by pressing the "- ADJ +" button. By pressing "-" or "+" it is possible to adjust the picture for a symmetrical distortion. After that it is possible to re-adjust via the pincushion control, see point 2.8 for a linear or straight picture.

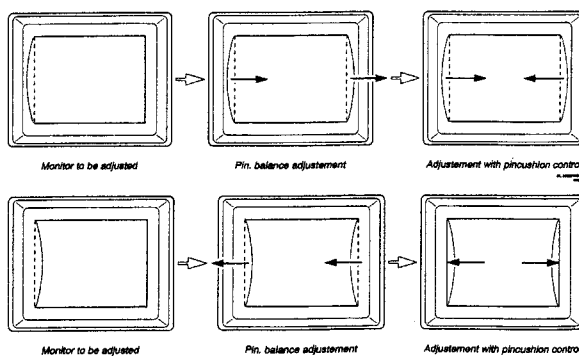


Fig. 2.9

2.10 Trapezoidal

A scale of 0 to 9 is available by pressing the "- ADJ +" button. By pressing "-" or "+" it is possible to adjust the left and right lines as indicated in fig. 2.10

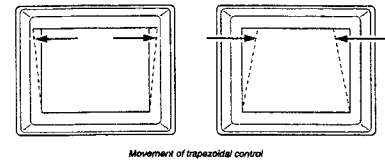


Fig. 2.10

2.11 Trapezoidal balance

A scale of 0 to 9 is available by pressing the "- ADJ +" button. By pressing "-" or "+" it is possible to adjust the left and right lines as indicated in fig. 2.11

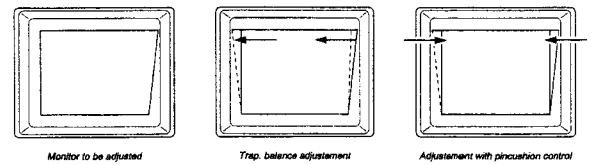


Fig. 2.11

Important: after a geometrical adjustment, the new control setting will be automatically stored by the monitor within 30 seconds, unless the monitor is switched off, the video mode is changed or the video input selector is changed.

3. How to recall the original geometry setting

If needed to restore the monitor to its original geometrical specifications, just press the "MEM RCL" button on the front panel. A message on the lcd panel will request a confirmation. Press once again the "MEM RCL." button to complete the operation.

4. - ADJ. + button

This button allows the user to regulate a chosen parameter. On the LCD panel an adjustment scale of 0 to 9 will be displayed.

5. MEM. SEL. button

This button is used to memorize or to recall a specified timing. By pressing "MEM.SEL", the monitor will display the video mode that is presently on. If using a standard resolution which is already present in the monitor, the channel will be pinpointed by the <--- sign (for the complete list see the factory preset video timing table). If on the contrary a resolution is not present, the first available channel will be displayed (from 15 to 22 only). By pressing the "- ADJ +" button it is possible to change the video mode number for storing the required timing. Please note that it is only possible to choose a specific video mode number where to memorize the required timing only with "non factory preset timing". To memorize the changes on a specific video mode just press the "MEM.STORE" button.

Remark: be careful not to accidentally memorize changes on top of a factory preset timing. Please read the instructions how to recall a preset video mode.

6. MEM.STORE button

This button is used to memorize a channel. It must be used in conjunction with "MEM.SEL." to work. Please note that the monitor will not store 2 identical timing.

7. **MEM.RCL. button**

The memory recall button is used to re-set the monitor to the default settings of a specific channel. First select through the " - ADJ. +" button the channel that needs to be restored (valid channels are from 1 to 14), then press "MEM.RCL." button. A message on the LCD display will request a command confirmation, press again "MEM.RCL." to complete the operation.

8. **LCD display**

The Liquid Crystal Display where all the information regarding the front panel control is displayed. there are 3 different types of messages that could be displayed on the LCD;

- a. normal operational messages like the timing displayed etc.
- b. messages related to possible changes in the monitor specifications (i.e. contrast or brightness settings).
- c. messages related to monitor malfunction or diagnostics.

9. - + button

This button is used to adjust the brightness. By pressing it, a scale (represented by vertical bars) appears on the LCD. By pressing "+" or "-" the brightness can be changed. When the maximum brightness is reached an arrow (▶) will be displayed on the right side of the LCD. If not changing the brightness after 2 to 3 seconds, the LCD will display the previous message and after 20 seconds the monitor will memorize the settings. The brightness will remain memorized even after switching off the monitor.

10. - + button

This button is used to adjust the contrast. The setting of this function is equal to the setting of the brightness, see point 9.

11. **INPUT SEL. button**

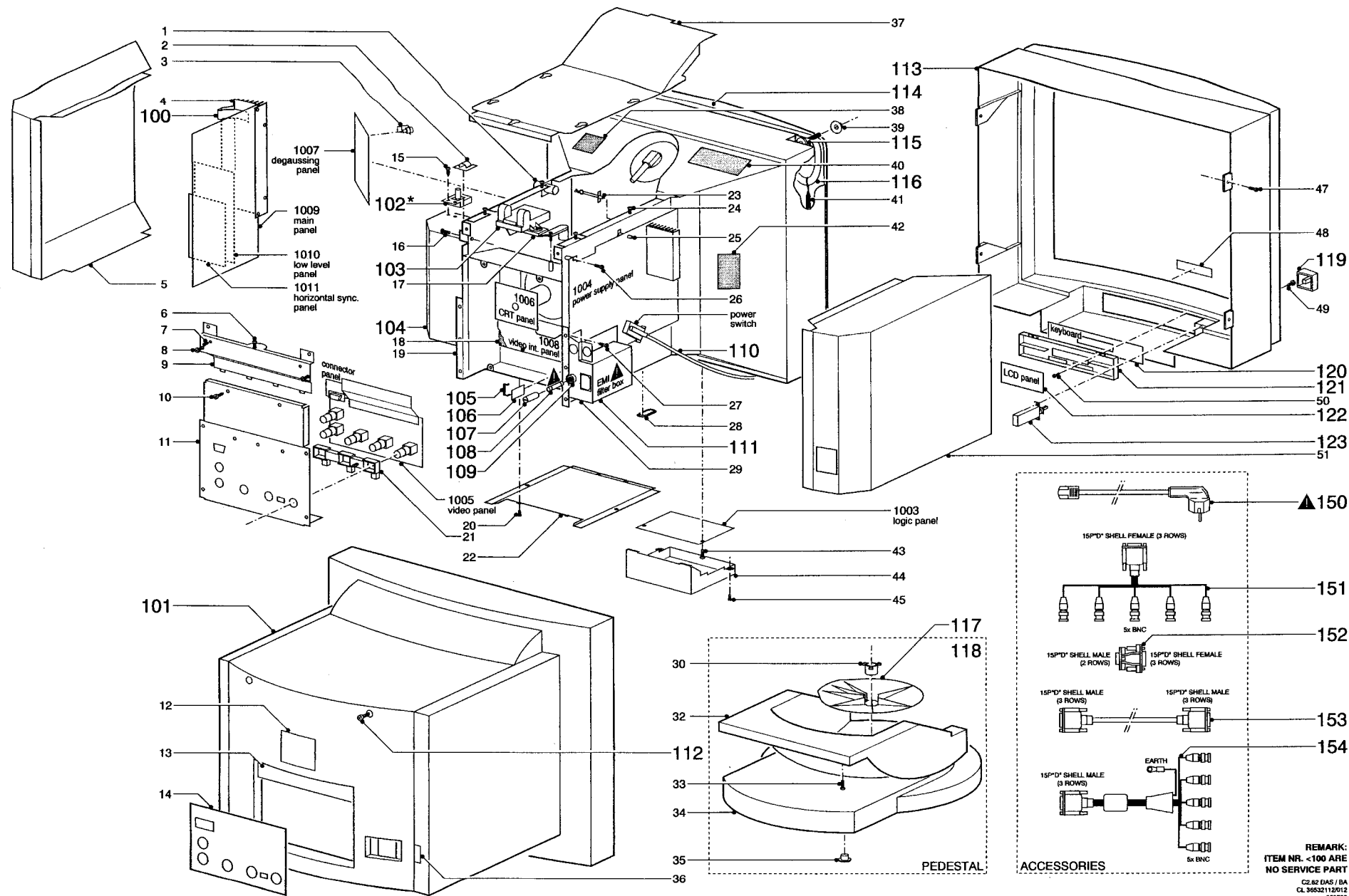
With this button it is possible to select the type of "video input". The options are BNC or D-SUB. If the selected video input is not connected an error message will flash on the LCD. After 20 seconds the selection is memorized.

12.

This is the degaussing button. It is used in case distortions or colour impurity caused by magnetic fields are present on the screen.

Remark: if the monitor remains inactive for more than 3 seconds the original video mode will appear on the LCD display.

10. Exploded view



* only for C2082 DAS / BA

REMARK:
ITEM NR. <100 ARE
NO SERVICE PART
C2.82 D1AS / BA
CL 36532112/012
050789

C2082DAS/BA**REPAIRABLE PRINTED
CIRCUIT BOARDS**

(via Philips Consumer Service)

1003	4822 212 30896	Logic PCB (without U709)
1004	4822 212 30161	Power PCB
1005	4822 212 30937	Video PCB
1006	4822 212 30173	CRT PCB
1007	4822 212 30892	Degaussing PCB
1008	4822 212 30166	Video Int. PCB
1009	4822 212 30954	Main PCB
1010	4822 212 30162	Low Level PCB
1011	4822 212 30962	Hor.Sync. PCB
	4822 212 30565	Connector PCB

PARTS NOT ON PCB's

(See exploded view)

100	4822 403 70643	Spring for TS
101	4822 438 20248	Rear cover wit textplate
102	4822 101 11203	Static conv. potmeter
103	4822 212 30936	Focus unit
104	4822 212 30935	High tension box
105	4822 492 71122	Spring clip
106	4822 466 93141	Thermal insulator
107	4822 256 91969	Fuse cap
108	5322 253 54022	Fuse T4A
109	4822 256 91968	Fuse holder
110	4822 403 70606	ON/OFF extension
111	4822 265 31132	Mains socket assy
112	4822 502 21204	Screw M5X18
113	4822 451 70257	Mask + logo
114	4822 131 20479	Picture tube
115	4822 505 11137	Nut M6
116	4822 157 63964	Degaussing coil
117	4822 466 93301	Friction disc
118	4822 462 10559	Pedestal assy
119	4822 410 62748	ON/OFF Push button
120	4822 691 10411	Keyboard
121	4822 401 11499	Keyboard support
122	4822 130 91133	LCD Display
123	4822 272 20078	ON/OFF Switch (Mechanical)
	4822 276 13451	Main switch assy

**KEY COMPONENTS ON
POWER PCB**

F601	4822 253 30322	Fuse T0.2A 250V
S601	4822 272 20079	Mains switch
T601	4822 146 31278	Power tr. +200V
T602	4822 142 40335	Power tr. +5V

**KEY COMPONENTS ON
MAIN PCB**

F801	4822 253 50146	Fuse 1A 125V
------	----------------	--------------

**KEY COMPONENTS ON
LOGIC PCB**

U709	4822 900 10451	Eprom
------	----------------	-------

ACCESSORIES

150	4822 321 10676	Power cord EUR
150	4822 321 10978	Power cord USA
151	4822 321 61241	I/F Cable (short) 5xBNC MALE-15P "D" Shell Female
152	4822 263 50197	Adaptor 15p "D" Shell Female 3 Rows -15P "D" Shell Male 2 Rows
153	4822 321 61529	I/F Cable 15p "D" Shell Male- 15P "D" Shell Male
154	4822 321 61411	I/F Cable 5xBNC Male- 15P "D" Shell Male
	4822 321 62144	RS232 Cable

C2182DAS/BA**REPAIRABLE PRINTED
CIRCUIT BOARDS**

(via Philips Consumer Service)

1003	4822 212 30896	Logic PCB (without U709)
1004	4822 212 30161	Power PCB
1005	4822 212 30937	Video PCB
1006	4822 212 30208	CRT PCB
1007	4822 212 30892	Degaussing PCB
1008	4822 212 30207	Video Int. PCB
1009	4822 212 30955	Main PCB
1010	4822 212 30206	Low Level PCB
1011	4822 212 30163	Hor.Sync. PCB
	4822 212 30565	Connector PCB

PARTS NOT ON PCB's

(See exploded view)

100	4822 403 70643	Spring for TS
101	4822 438 20248	Rear cover with textplate /US
103	4822 101 90246	Focus unit
104	4822 212 30935	High tension box
105	4822 492 71122	Spring clip
106	4822 466 93141	Thermal insulator
107	4822 256 91969	Fuse cap
108	5322 253 54022	Fuse T4A
109	4822 256 91968	Fuse holder
110	4822 403 70606	ON/OFF extension
111	4822 265 31132	Mains socket assy
112	4822 502 21204	Screw M5X18
113	4822 451 70261	Mask + logo /US
114	4822 131 20578	Picture tube
115	4822 505 11137	Nut M6
116	4822 157 70018	Degaussing coil
117	4822 466 93301	Friction disc
118	4822 462 10559	Pedestal assy /US
119	4822 410 62748	ON/OFF Push button /US
120	4822 691 10411	Keyboard
121	4822 401 11499	Keyboard support
122	4822 130 91133	LCD Display
123	4822 272 20078	ON/OFF Switch (Mechanical)
	4822 276 13451	Main switch assy

**KEY COMPONENTS ON
POWER PCB**

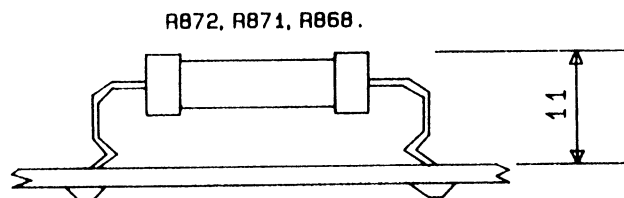
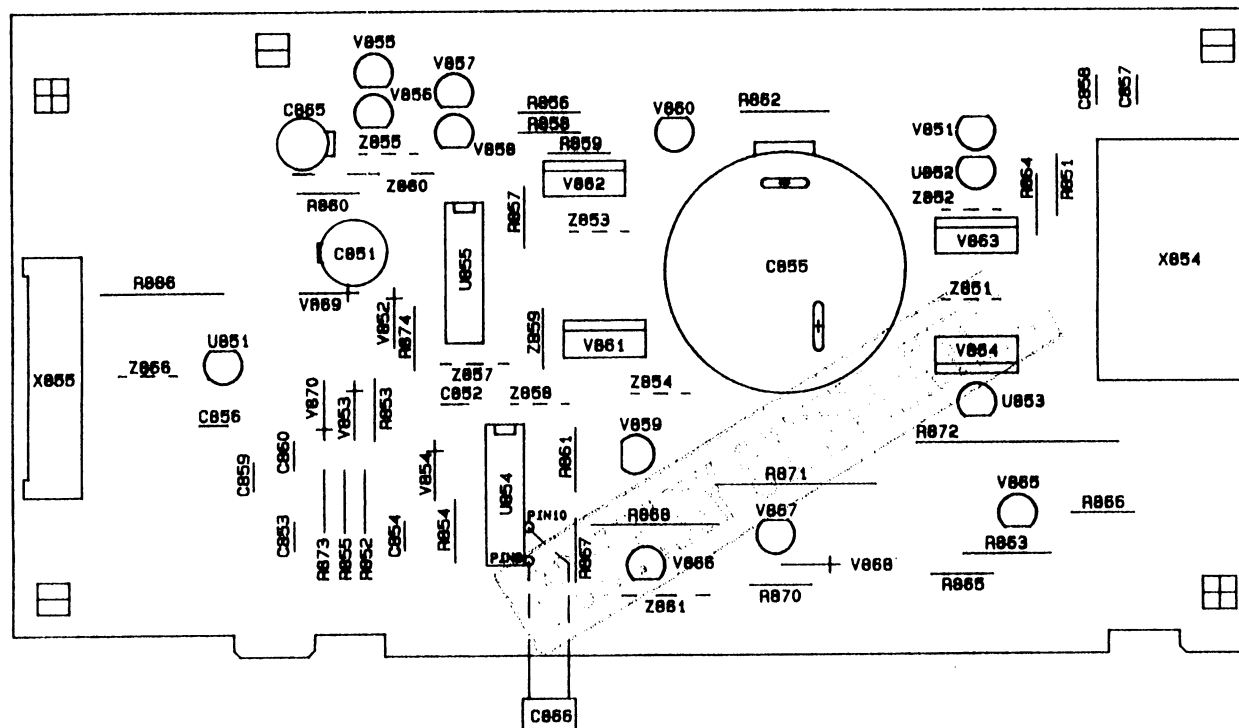
F601	4822 253 30322	Fuse T0.2A 250V
S601	4822 272 20079	Mains switch
T601	4822 146 31278	Power tr. +200V
T602	4822 142 40335	Power tr. +5V

**KEY COMPONENTS ON MAIN
PCB**

F801	4822 253 50146	Fuse 1A 125V
------	----------------	--------------

**KEY COMPONENTS ON
LOGIC PCB**

U709	4822 900 10456	Eprom
------	----------------	-------



CLASS NO.	DEGAUSS BOARD CQ94		3119 208 6341	
203 3627				
NAME	GIAMPIERI	SUPERB.	1 SH	SH. 110 - 1
AN	PROPERTY OF FINI S.R.L. - MILANO - FABB. SARONNO - ITALY		CHECK	DATE 93-09-13 FORM. A3

VENDOR SHALL CERTIFY COMPLIANCE WITH THE
ENVIRONMENTAL REQUIREMENTS ACCORDING TO
RULE : UAN-D1783

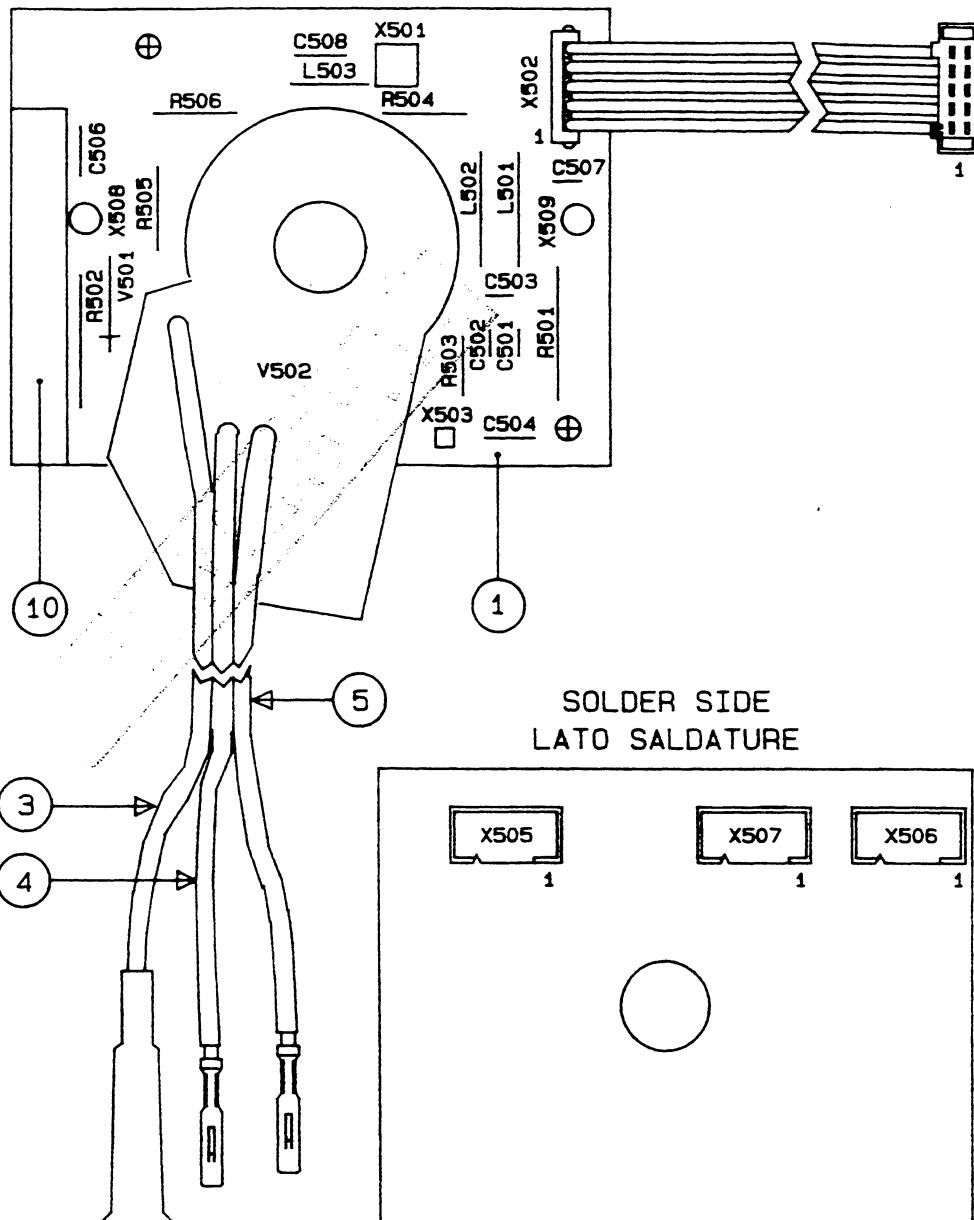
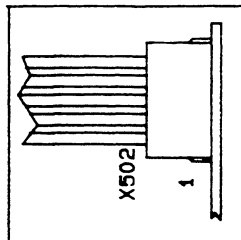
IL FORNITORE DEVE CERTIFICARE DI ESSERE
CONFORME CON I REQUISITI AMBIENTALI SECONDO
LE NORME: UAN-D1783

THE CABLE MUST BE MOUNTED IN
CHASSIS ASSEMBLY STEP .
IL CAVO DEVE ESSERE MONTATO
NELLA FASE DI ASSIEME TELAIO .

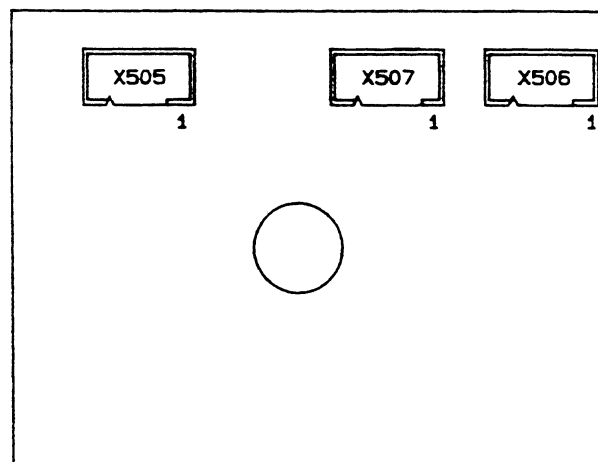
31192094098

X501

COMPONENT SIDE
LATO COMPONENTI



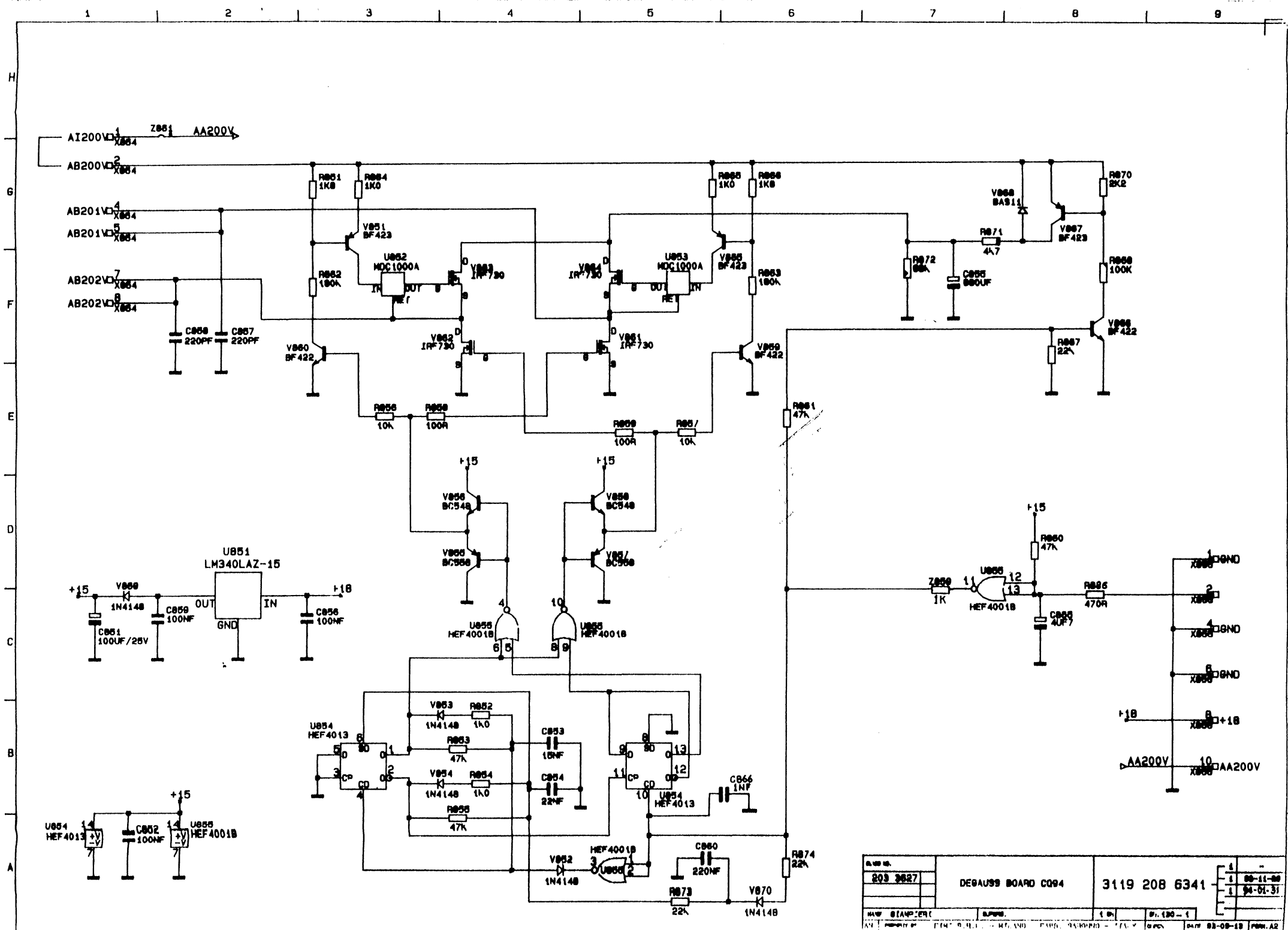
SOLDER SIDE
LATO SALDATURE

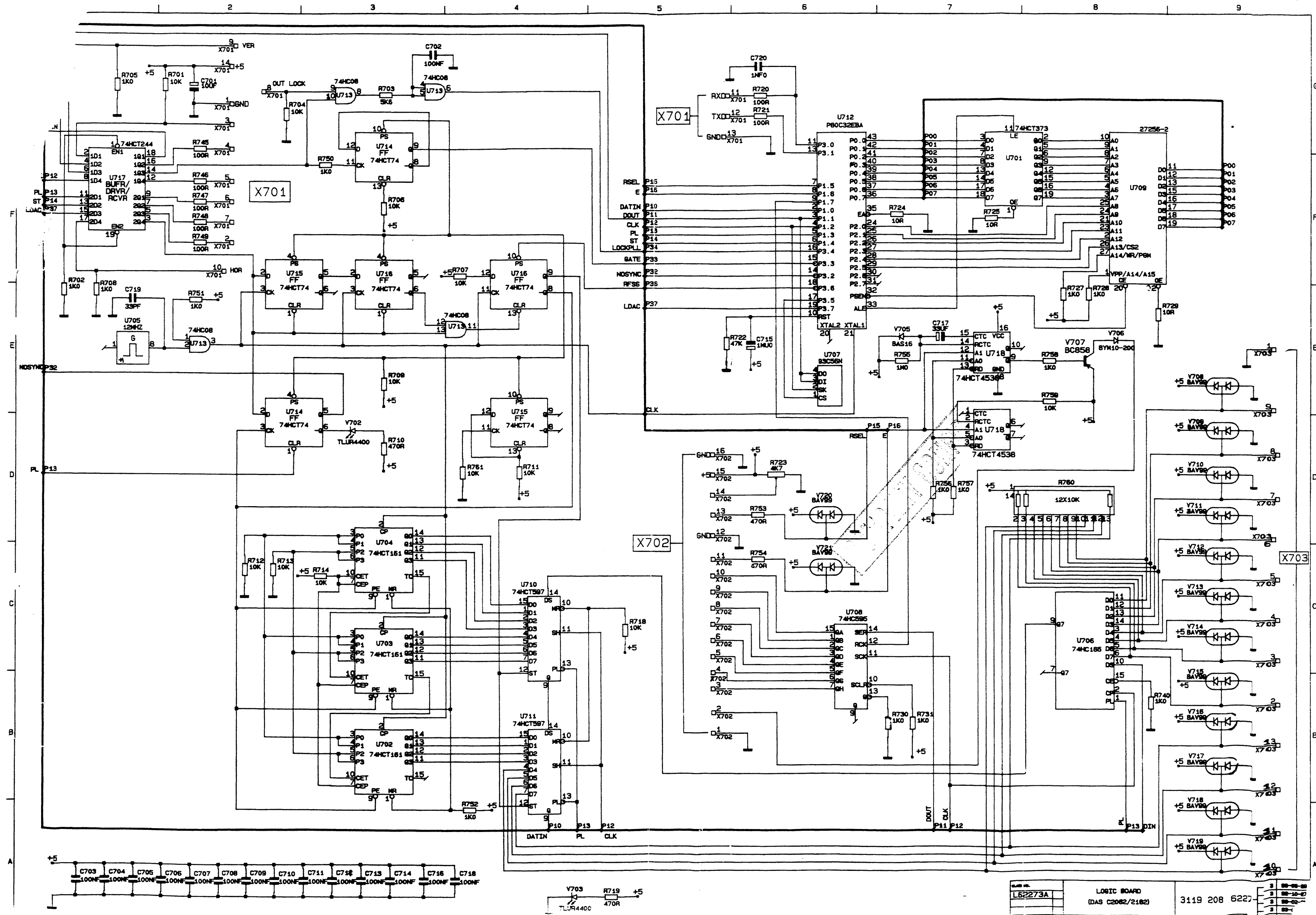


CLASS NO.		C.R.T. DAS C2082	3119 208 6244		1	-
203 3566			1	92-04-27		
			1	92-06-15		
NAME GIAMPIERI		SUPERS.	1 SH	SH. 110 - 1		
AN		PROPERTY OF FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY		CHECK	DATE 91-09-17	FORM. A4

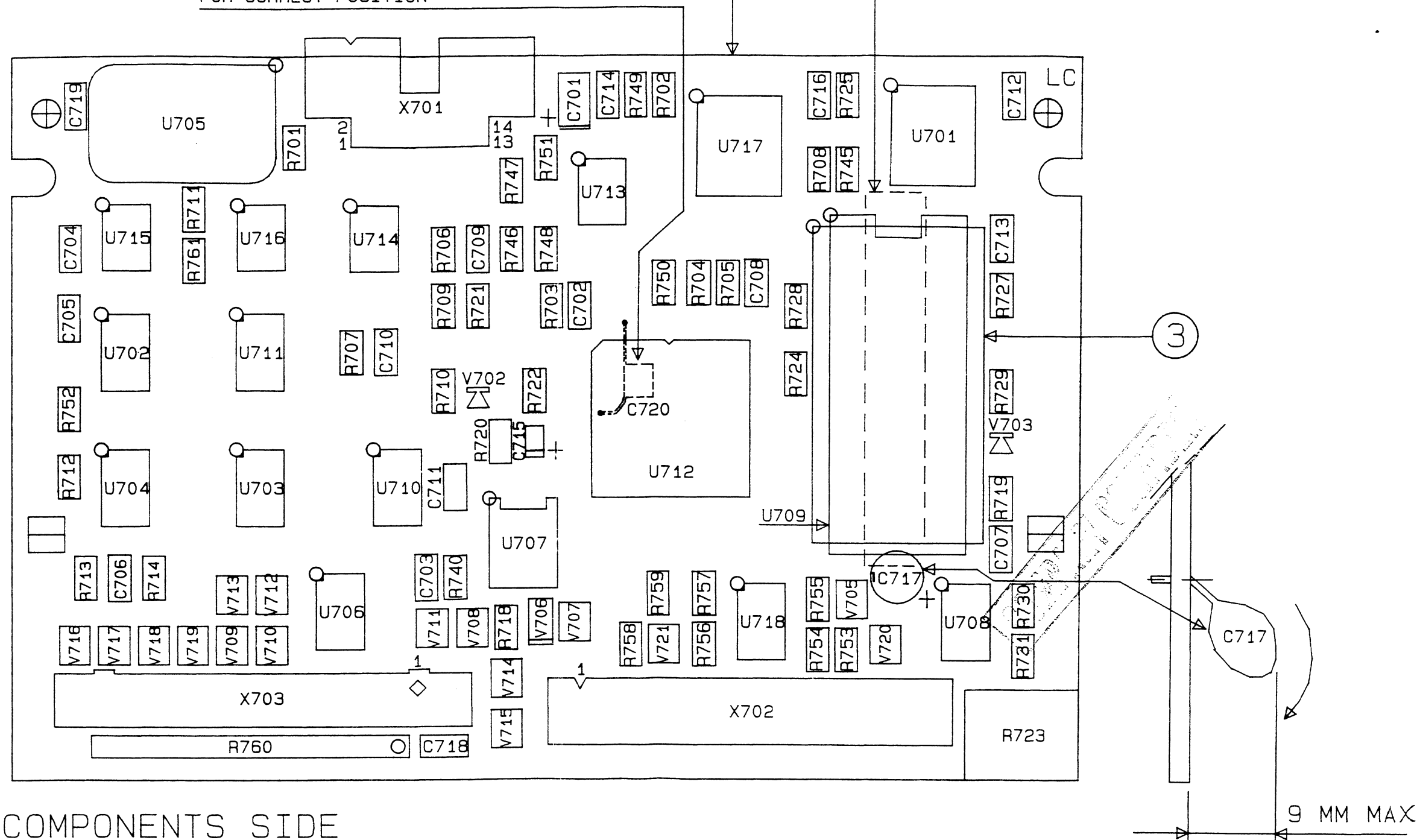
ALL RIGHTS STRICTLY RESERVED. REPRODUCTION OR USE
TO THIRD PARTIES IN ANY FORM WHATEVER IS NOT PERMITTED
WITHOUT WRITTEN AUTHORITY FROM THE PROPRIETORS.

TUTTI I DIRITTI SONO STRETTAMENTE RISERVATI. LA RIPRODU-
ZIONE O LA COMUNICAZIONE A TERZI E VIETATA IN QUALSIASI
FORMA SENZA AUTORIZZAZIONE SCRITTA DELLA PROPRIETARIA.





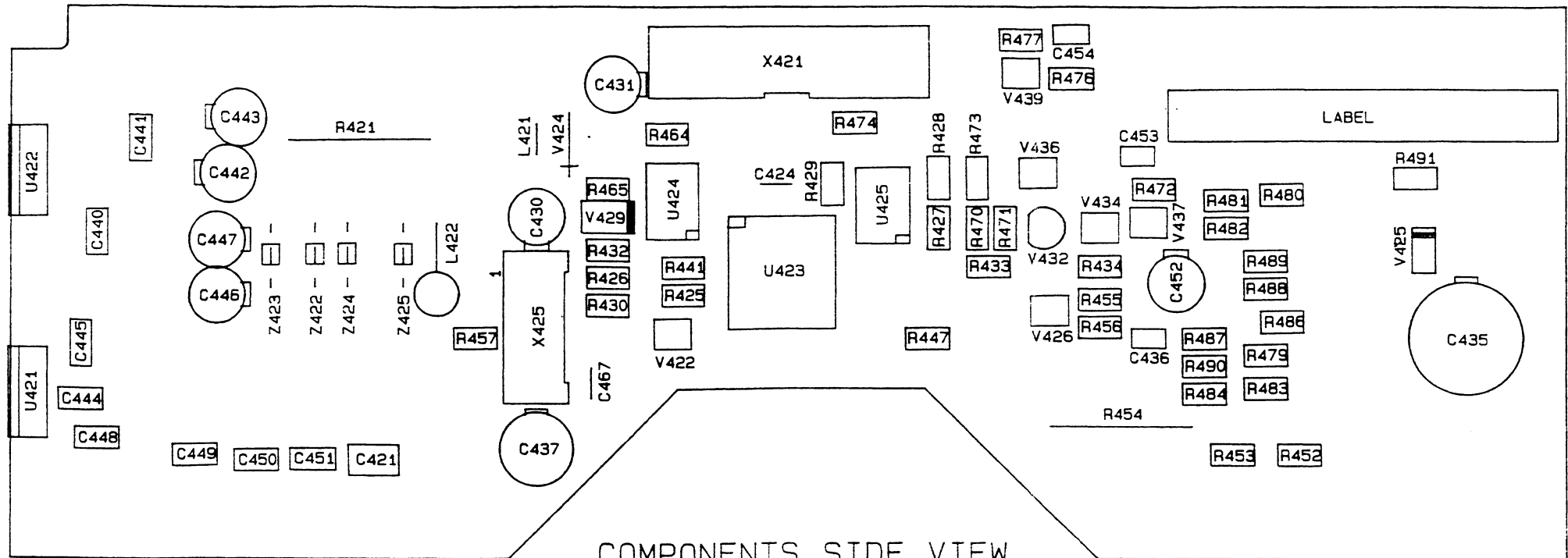
SOLDER LAYER : PLEASE REFER TO REFERENCE BOARD IN THE LAB.
FOR CORRECT POSITION



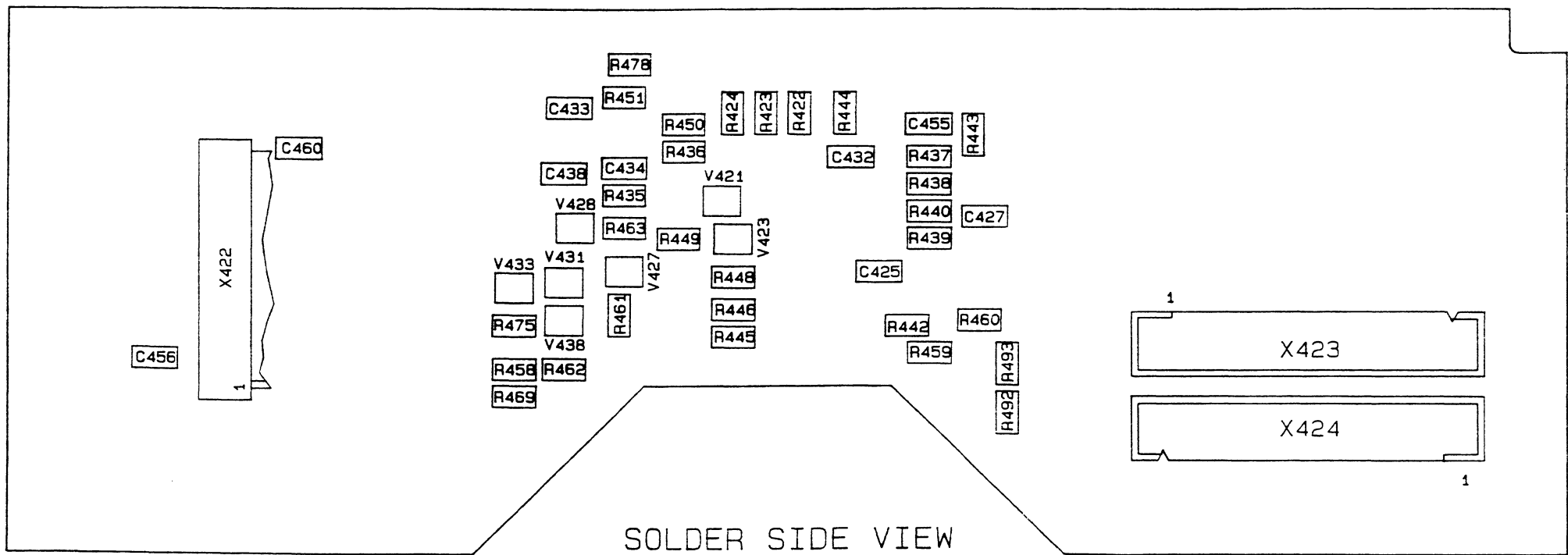
COMPONENTS SIDE

CLASS NO.		LOGIC ASSY (DAS C2082/2182)		3119 208 6227		3	93-05-26
						3	93-09-21
NAME MAZZEO		SUPERS.		1 SH	SH. 110 - 1		
AN		PROPERTY OF FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY		CHECK	DATE 91-08-28	FORM. A3	

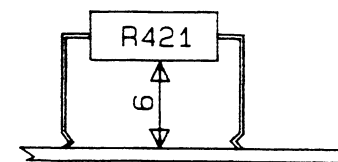
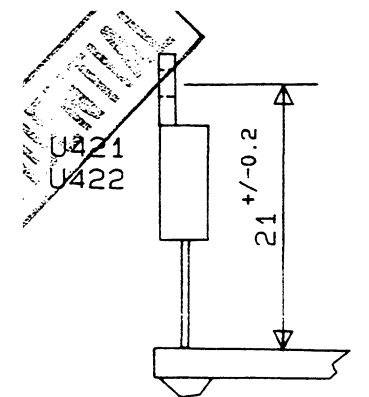
F
E
D
C
B
A



COMPONENTS SIDE VIEW
VISTA LATO COMPONENTI



SOLDER SIDE VIEW
VISTA LATO COMPONENTI



VENDOR SHALL CERTIFY COMPLIANCE WITH THE ENVIRONMENTAL REQUIREMENTS ACCORDING TO RULE : UAN-D1783

IL FORNITORE DEVE CERTIFICARE DI ESSERE CONFORME CON I REQUISITI AMBIENTALI SECONDO LE NORME: UAN-D1783

SOLDER PASTE MASK COMP. SIDE : 8219 253 3526.3 SEE : SP01
MASCH. PASTA SALD. LATO COMP.: VEDI:

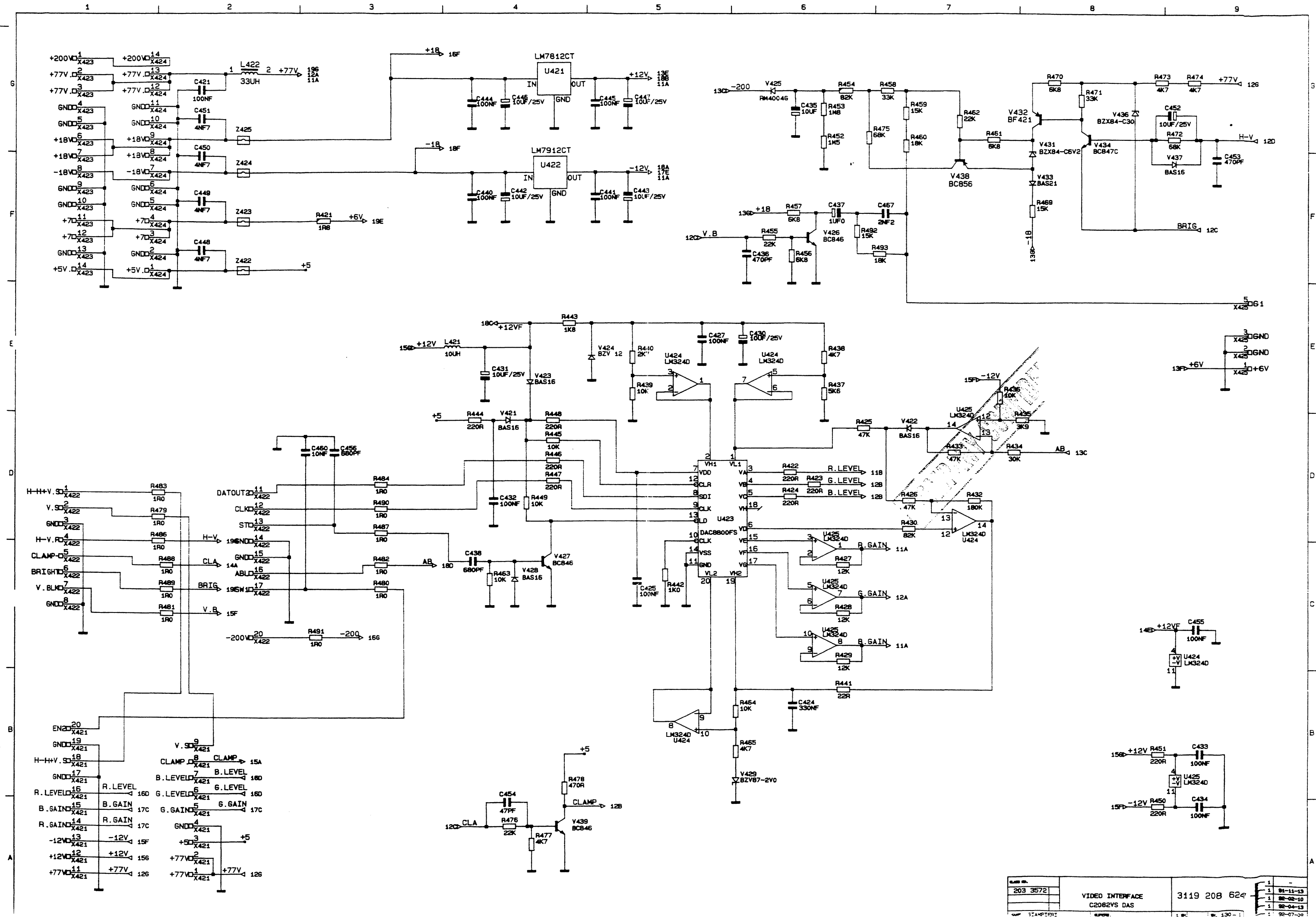
SOLDER PASTE MASK SOLDER SIDE: 8219 253 3527.1 SEE : SP02
MASCH. PASTA SALD. LATO SALD.: VEDI:

CLASS NO.					
203 3572					
NAME	GIAMPIERI	SUPERS.	1 SH.	SH. 110 - 1	
AN	PROPERTY OF	FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY	CHECK	DATE	91-09-11
					FORM. A3

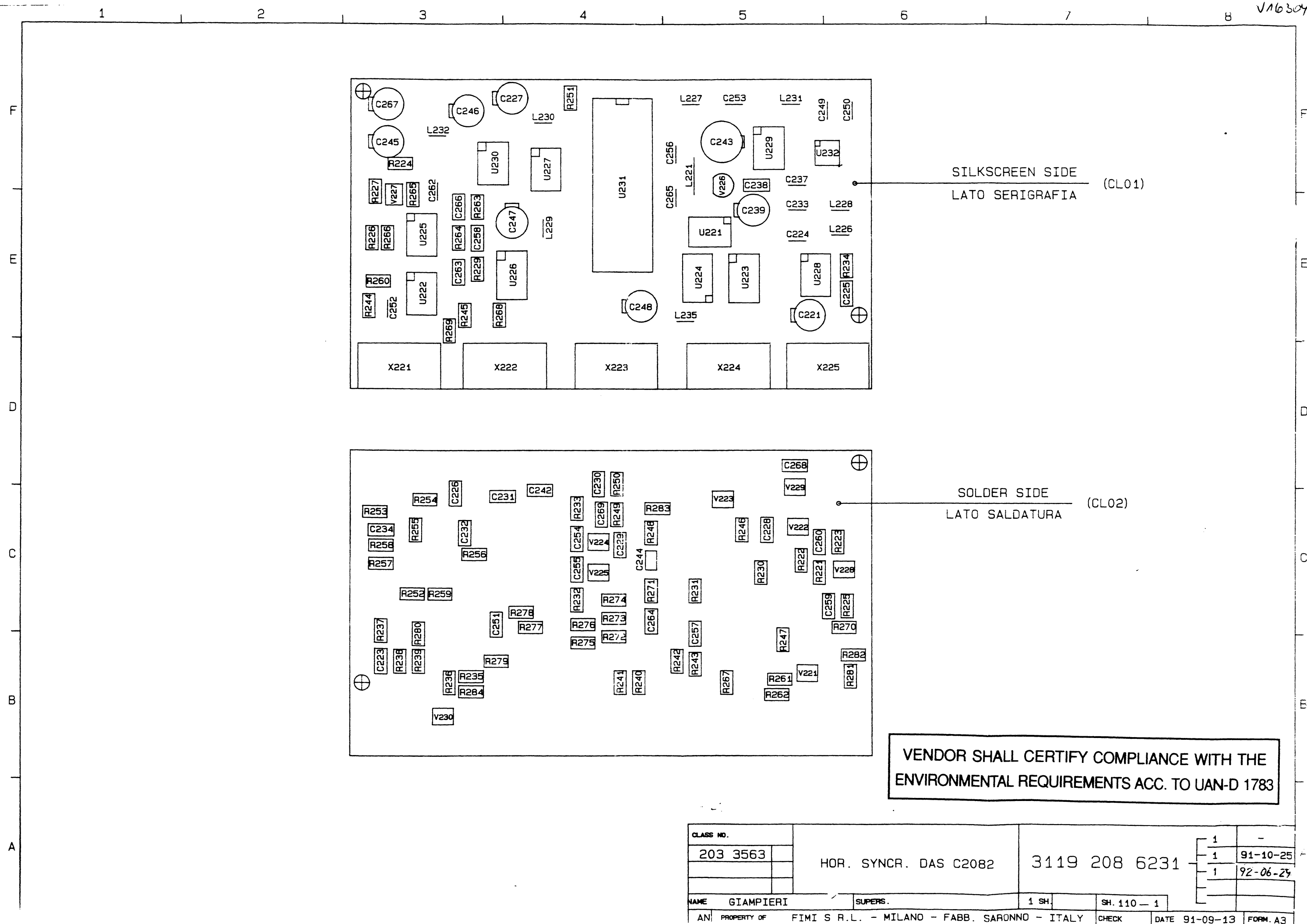
VIDEO INTERFACE
C2082VS DAS

3119 208 6247

1	92-07-13
1	92-02-10
1	92-04-13
1	92-07-09



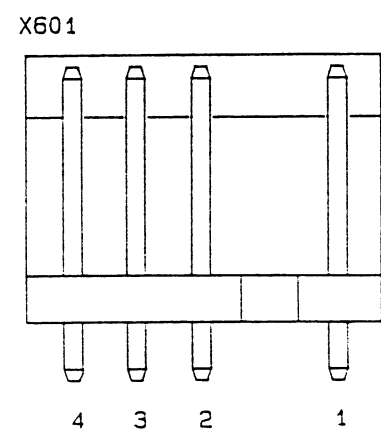
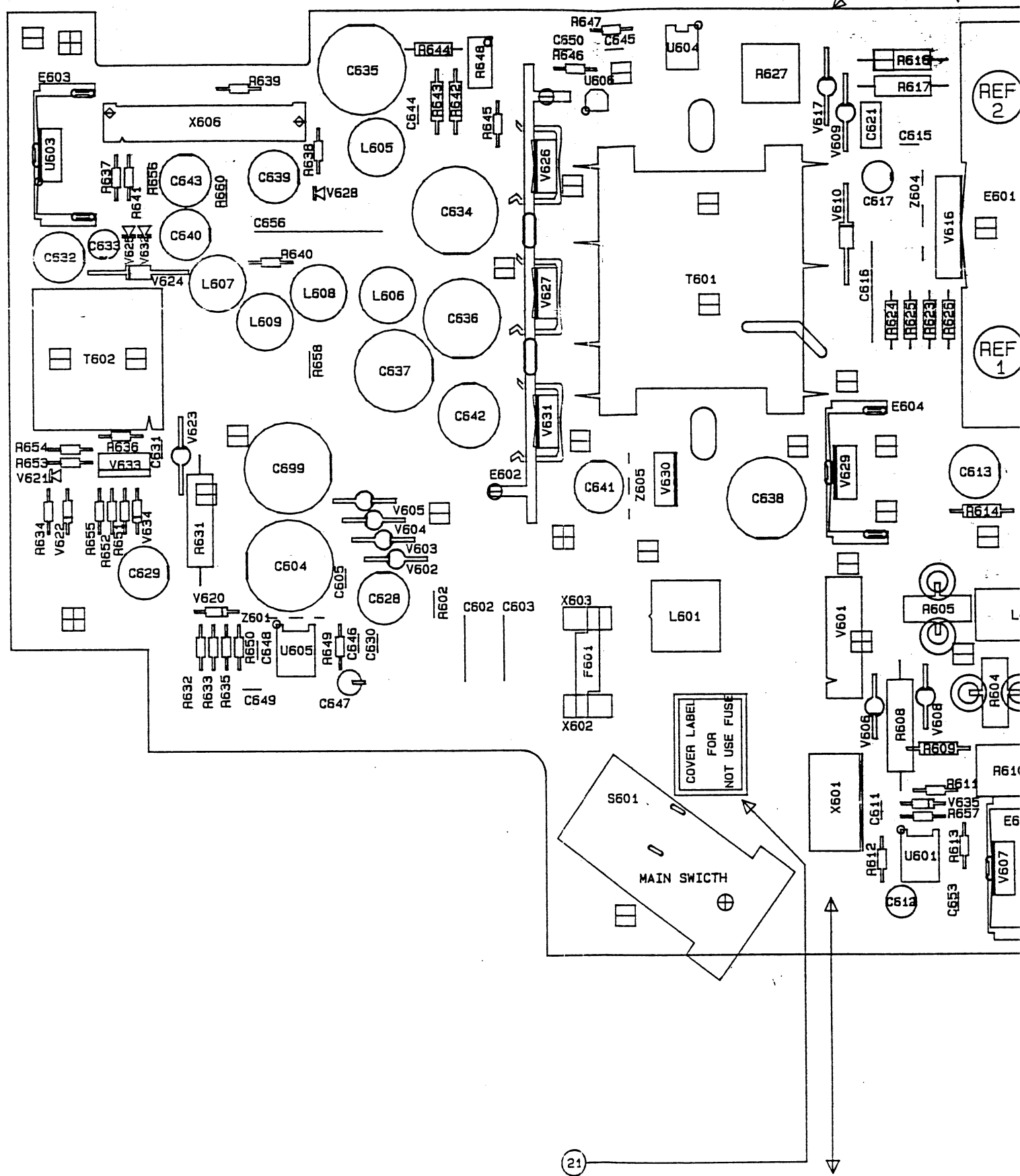
203 3572	VIDEO INTERFACE C2082VS DAS	3119 208 624	1 81-11-13 1 82-02-10 1 82-04-13 1 82-07-30
----------	--------------------------------	--------------	--

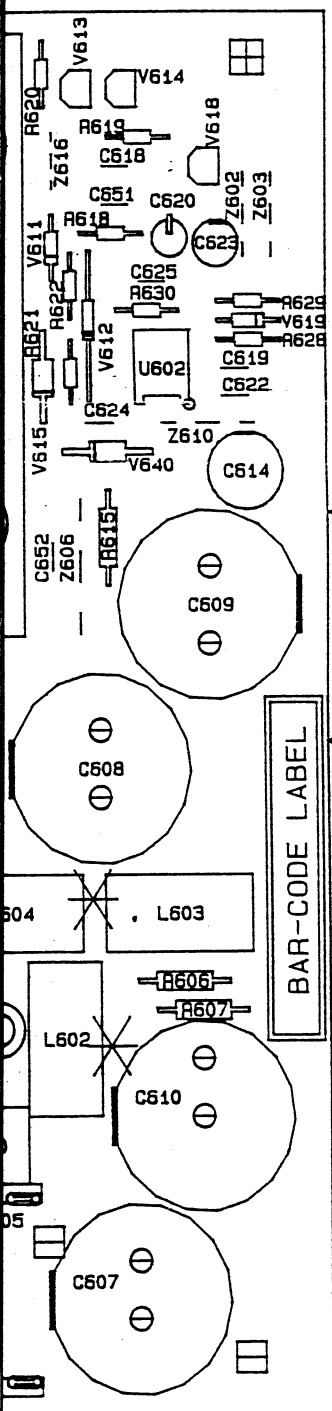


CLASS NO.		HOR. SYNCR. DAS C2082		3119 208 6231	
203 3563					
NAME GIAMPIERI		SUPERS.		1 SH. SH. 110 - 1	
AN PROPERTY OF		FIMI S R.L. - MILANO - FABB. SARONNO - ITALY		CHECK DATE 91-09-13 FORM. A3	

H
G
F
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B
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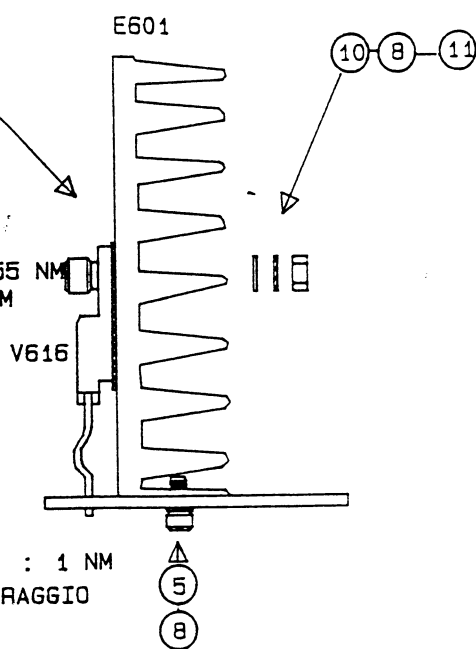
COMPONENTS SIDE
LATO COMPONENT



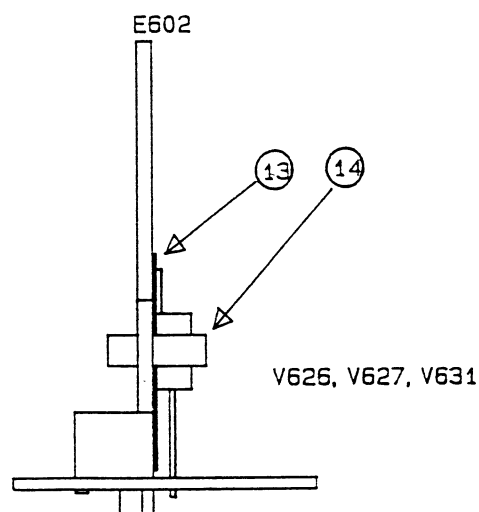


TORQUE FORCE
COPPIA DI SERRAGGIO

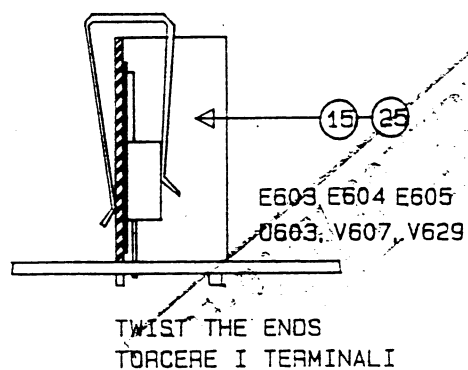
: RACCOMENDATO 0.55 NM
MAXIMUM 1 NM



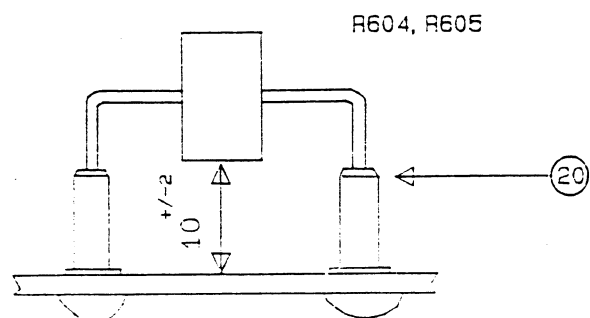
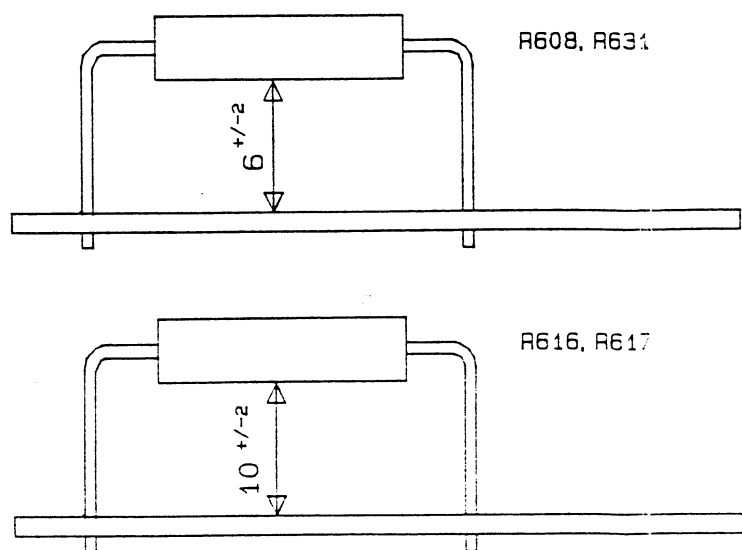
ITEM REF.1 TO MOUNT SCREW + LOCK WASHER
IN POS. REF.1 MONTARE VITE+RONDELLA DENTELLATA
ITEM REF.2 ONLY SCREW
IN POS. REF.2 SOLO VITE



TWIST THE ENDS
TORCERE I TERMINALI



TWIST THE ENDS
TORCERE I TERMINALI

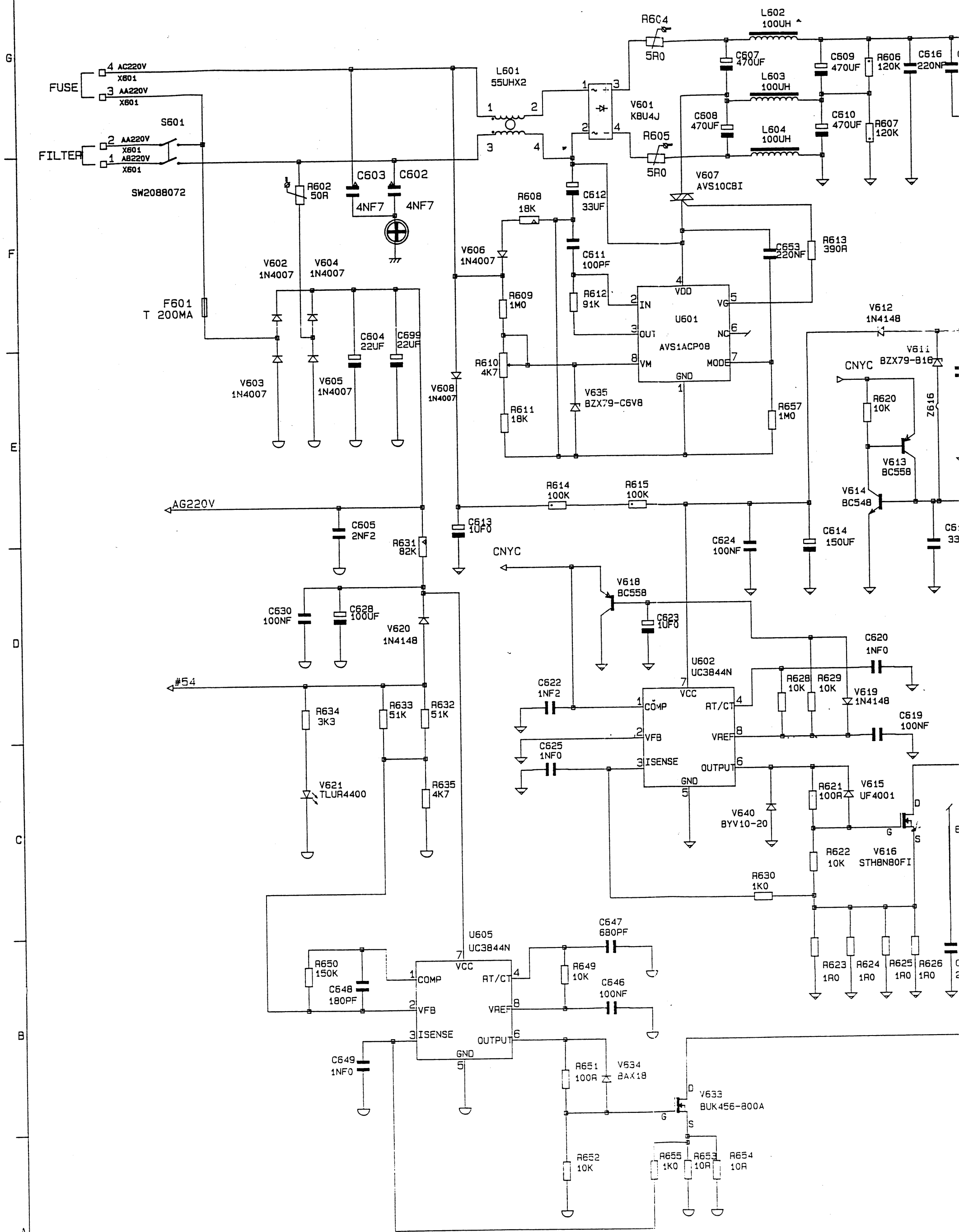


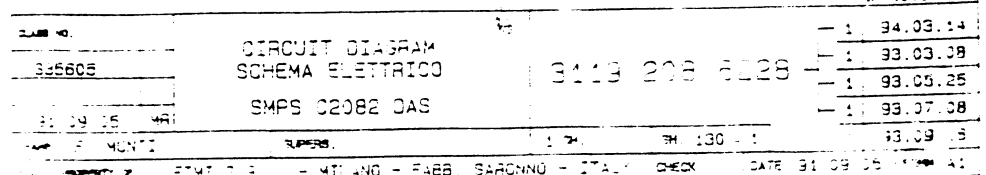
CP 6098

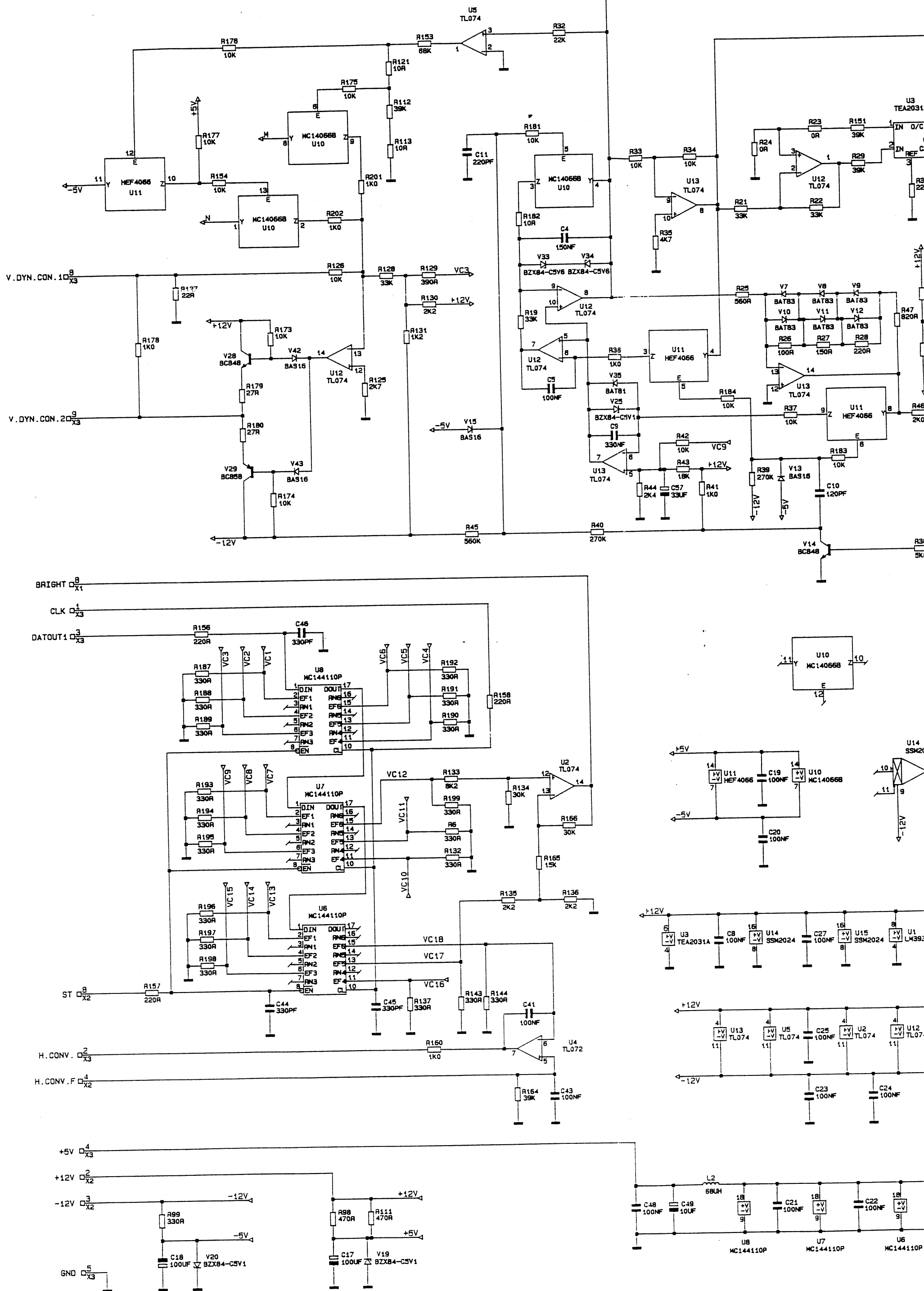
CLASS NO.	P.C.B. PANEL ASSY	1	92.07.14
35605	ASSIEME PANNELLO	1	92.12.11
	S.M.P.S C2082 DAS	1	93.05.25
31.03.15 MR		1	93.07.08
NAME F. MONTI	SUPERS.	1 SH.	94.03.15
AN PROPERTY OF	FIMI S.R.L. - MILANO - FABB. SARCINIO - ITALY	CHECK	DATE 31.09.11 FORM. A2

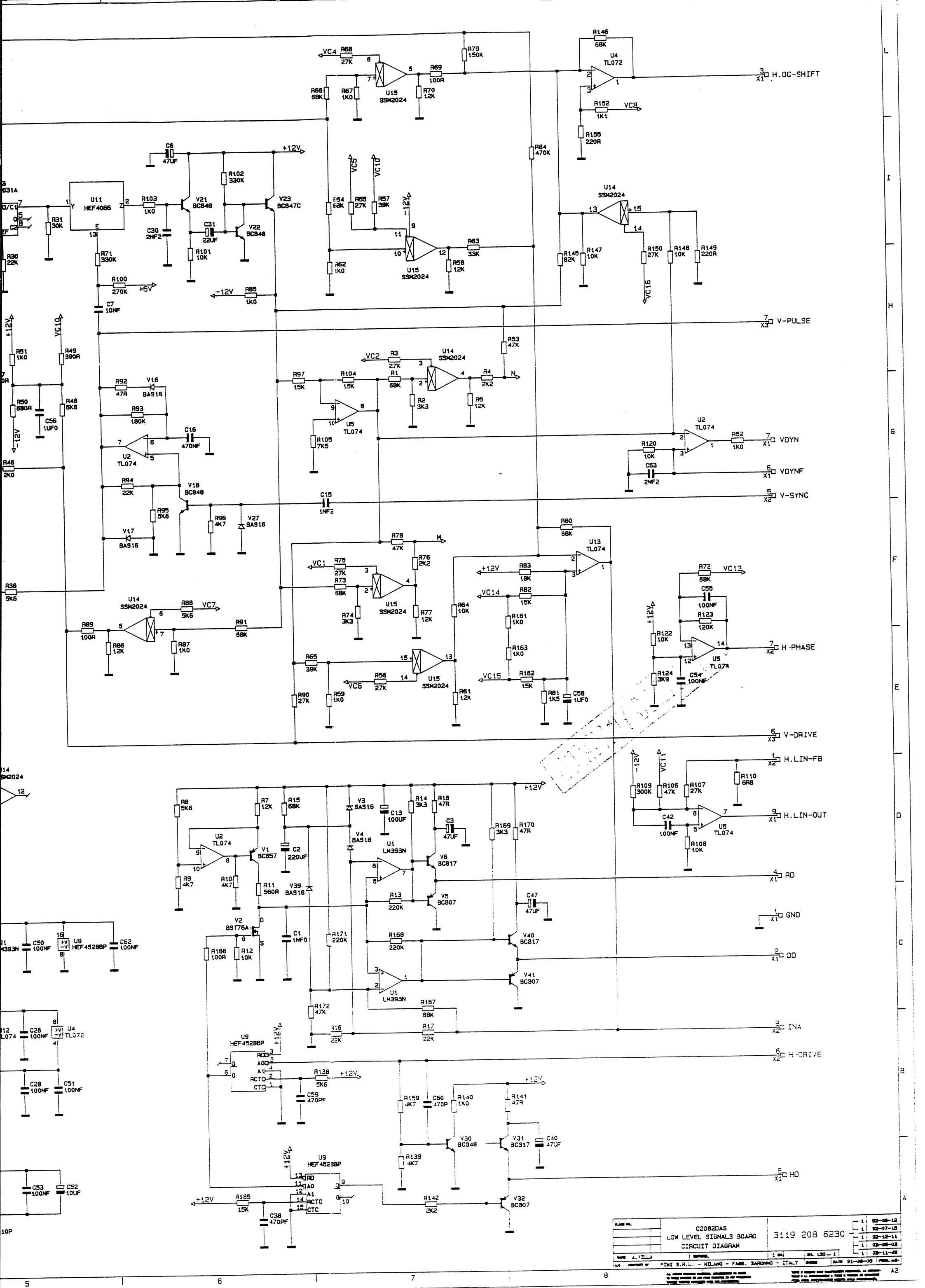
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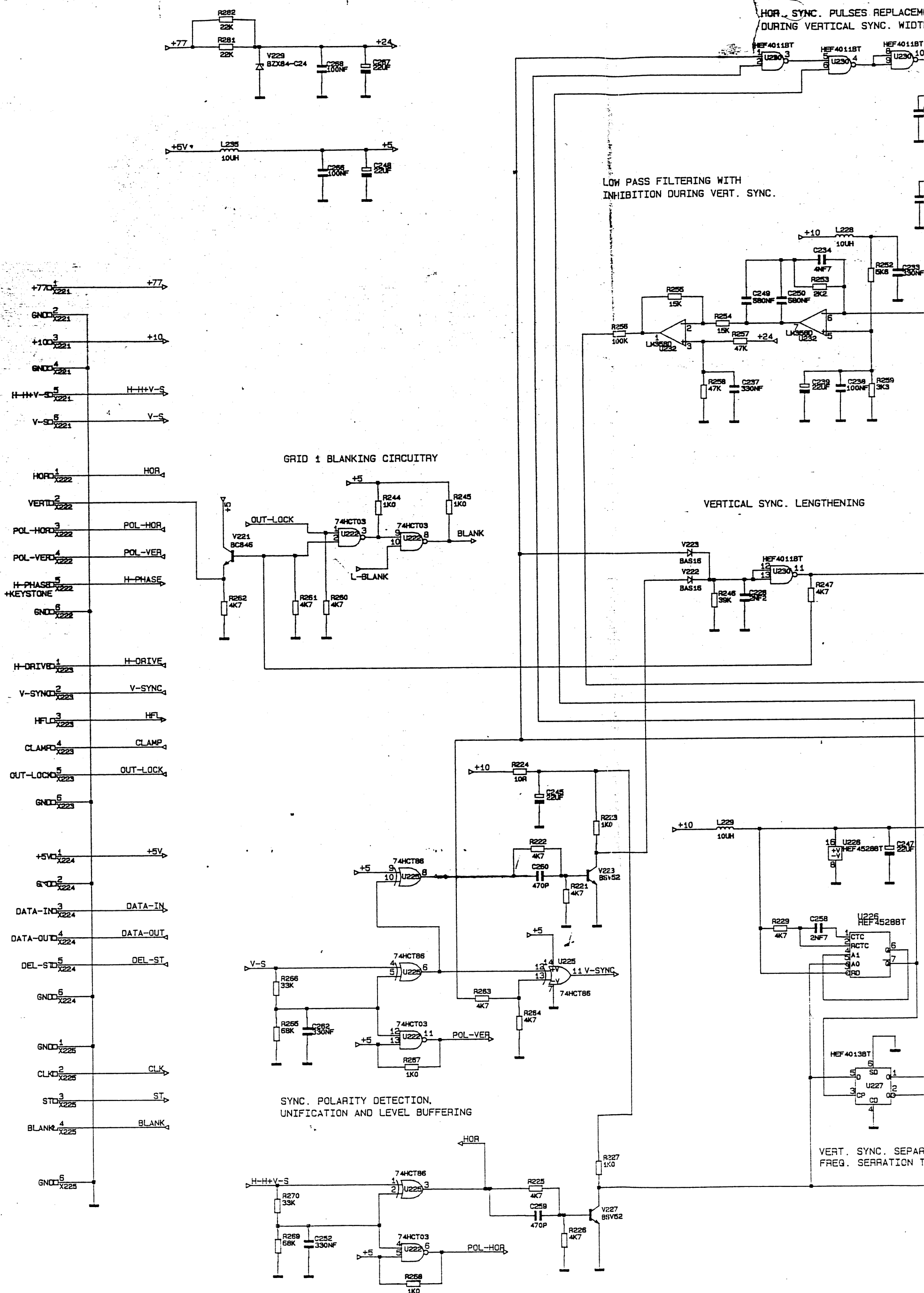
TUTTI I DIRITTI SONO STRETTAMENTE RISERVATI. LA RIPRODUZIONE
O LA COMUNICAZIONE A TERZI E VIETATA IN QUALUNQUE
FORMA SENZA AUTORIZZAZIONE SCRITTA DELLA PROPRIETARIA.

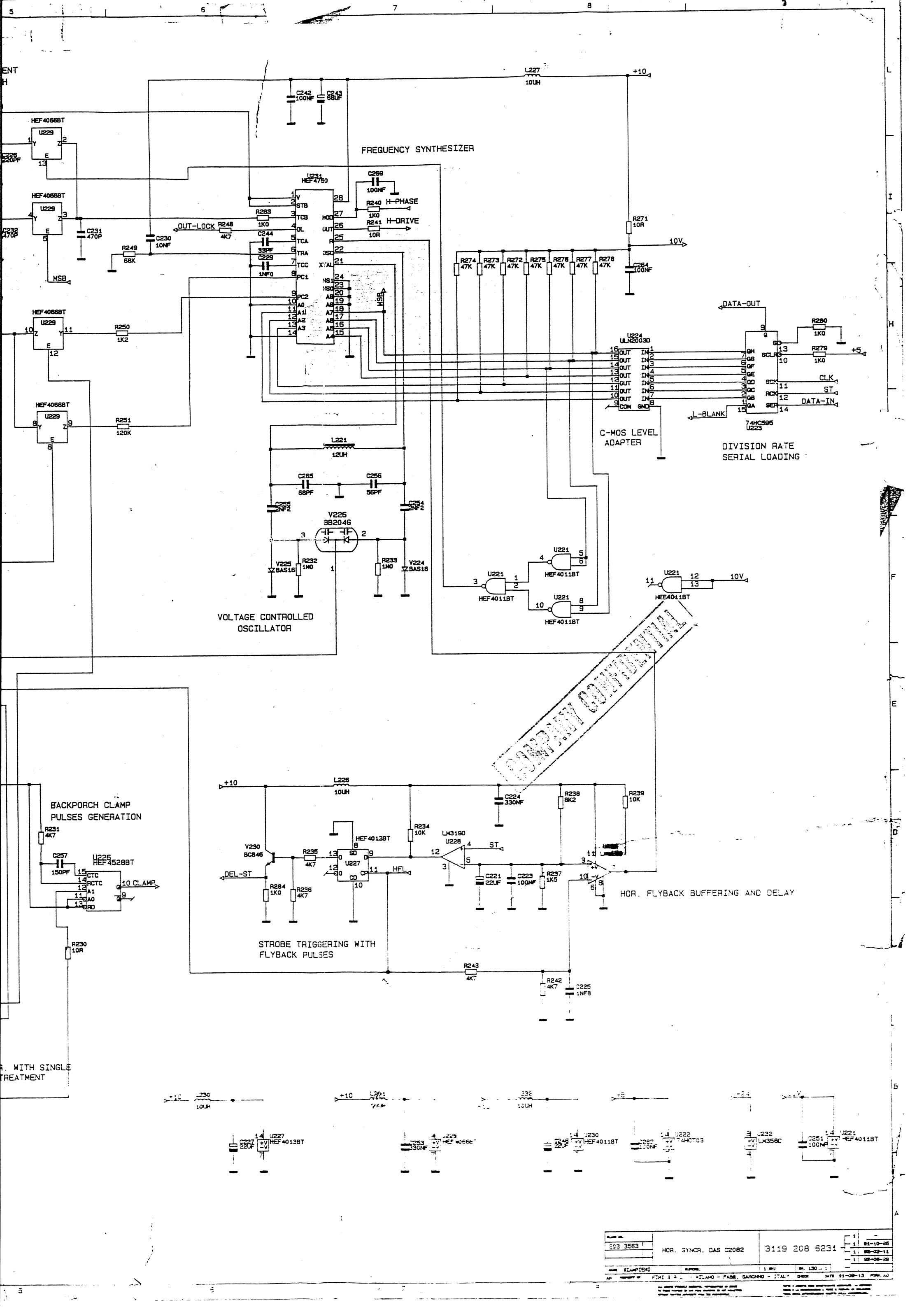


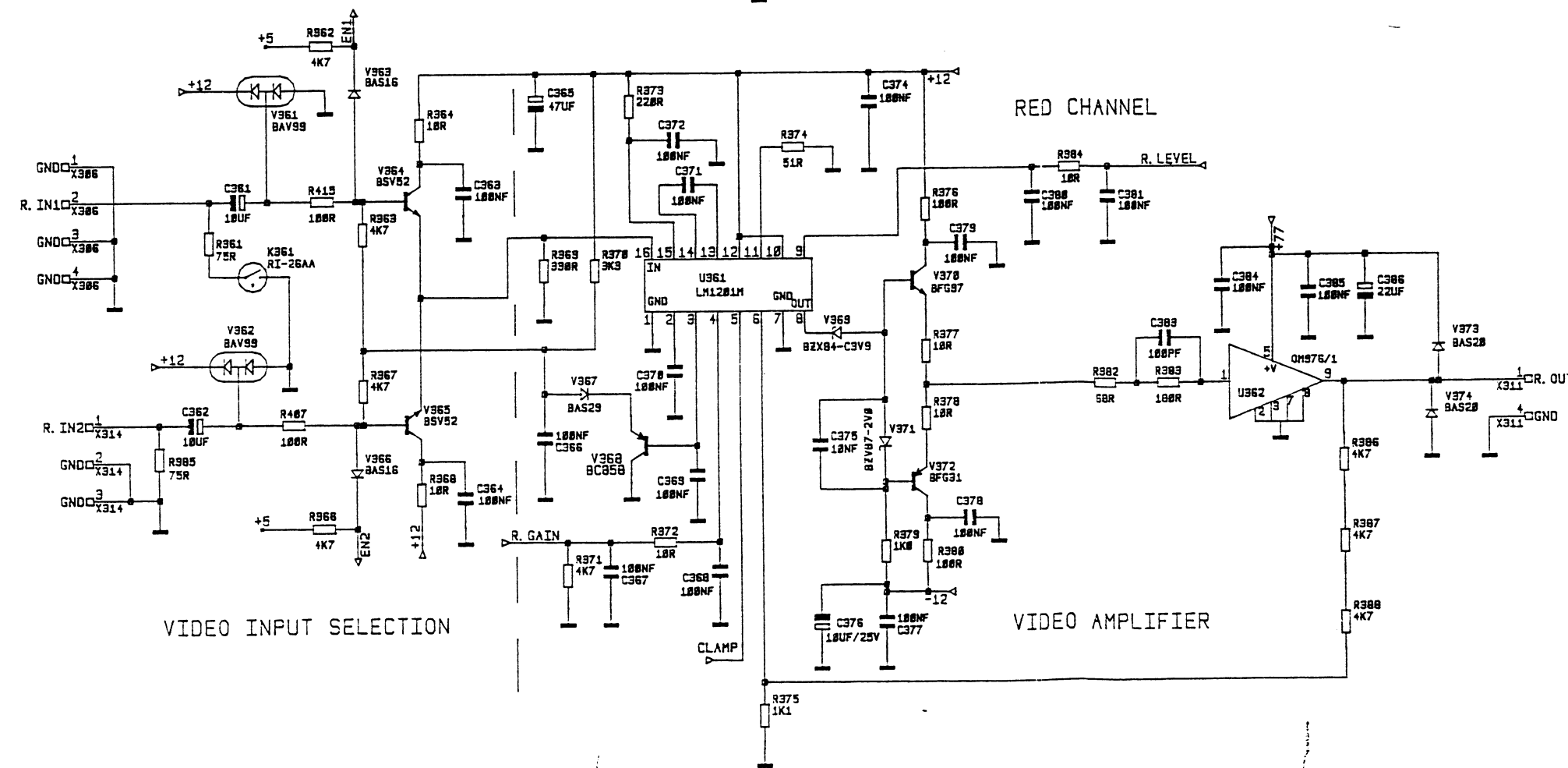
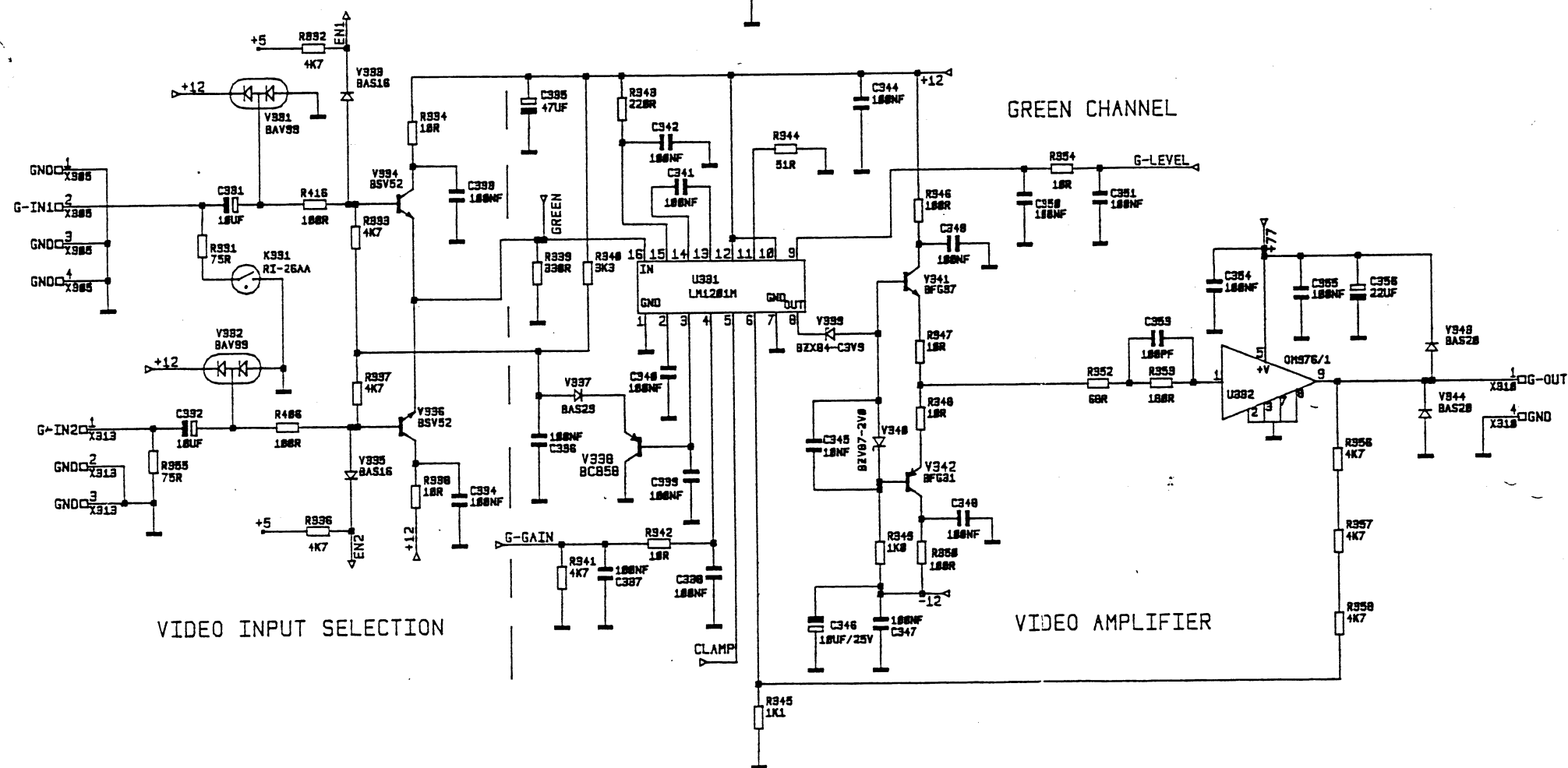
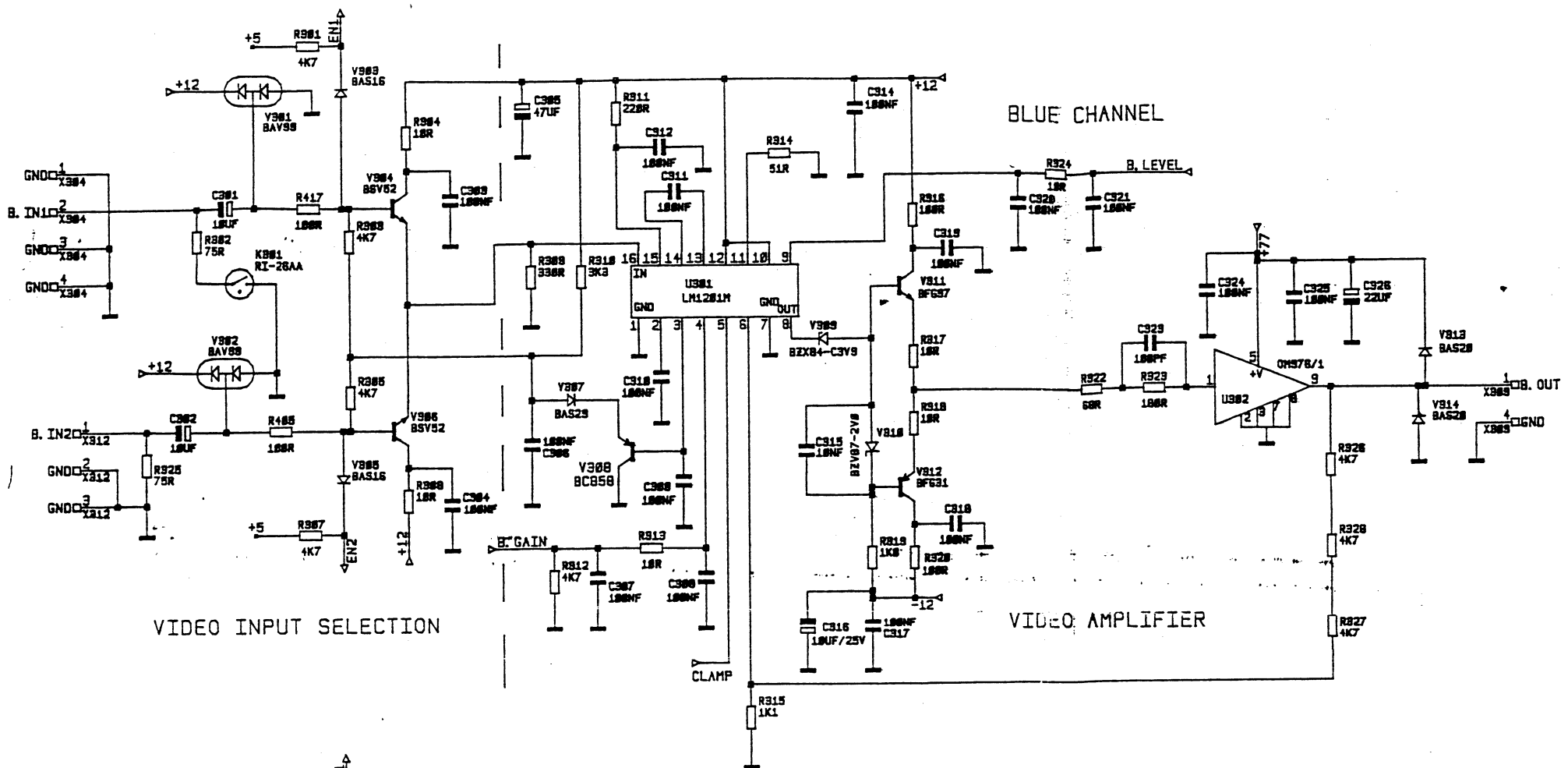


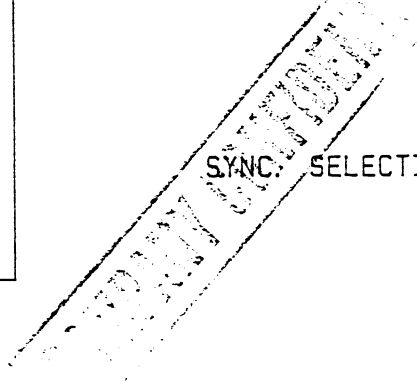


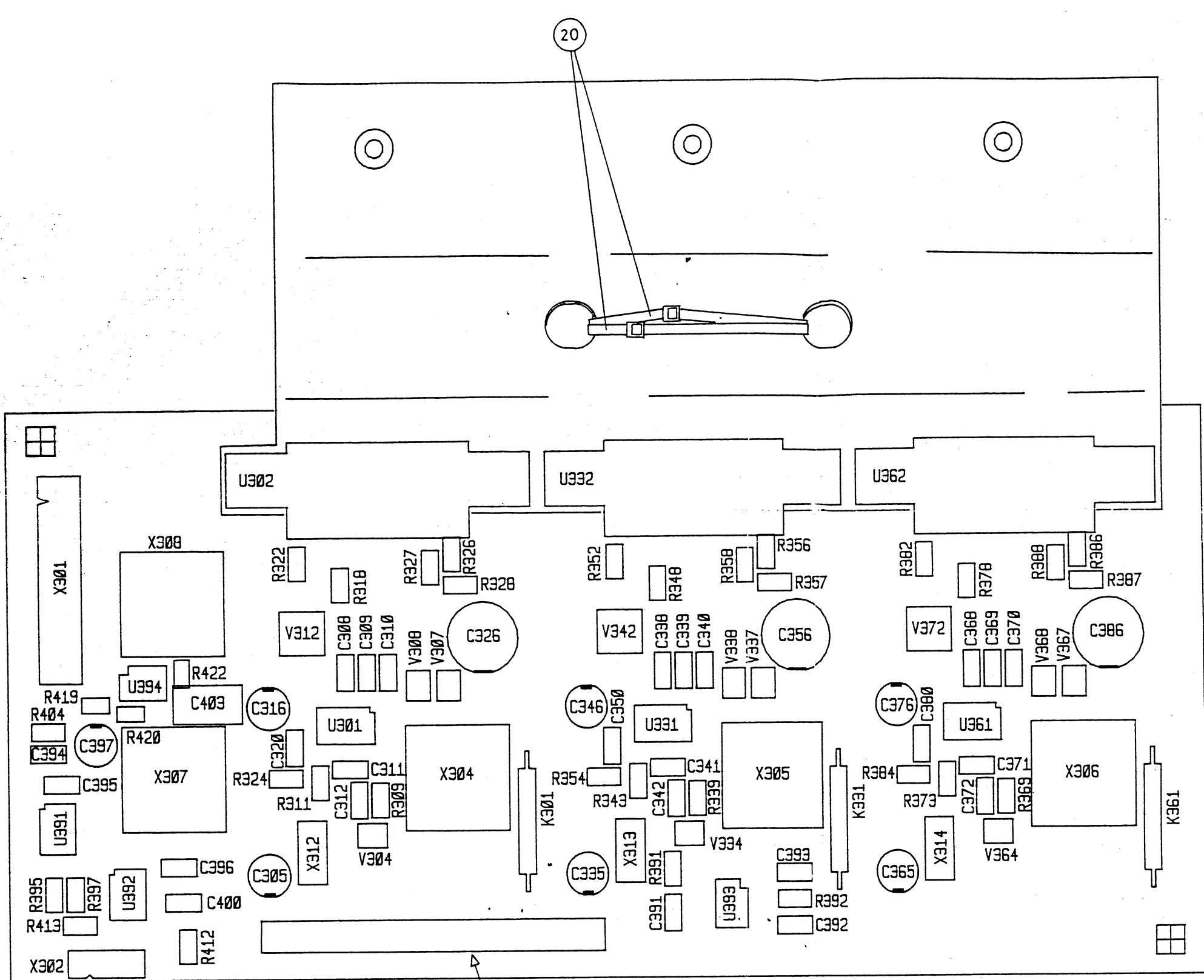




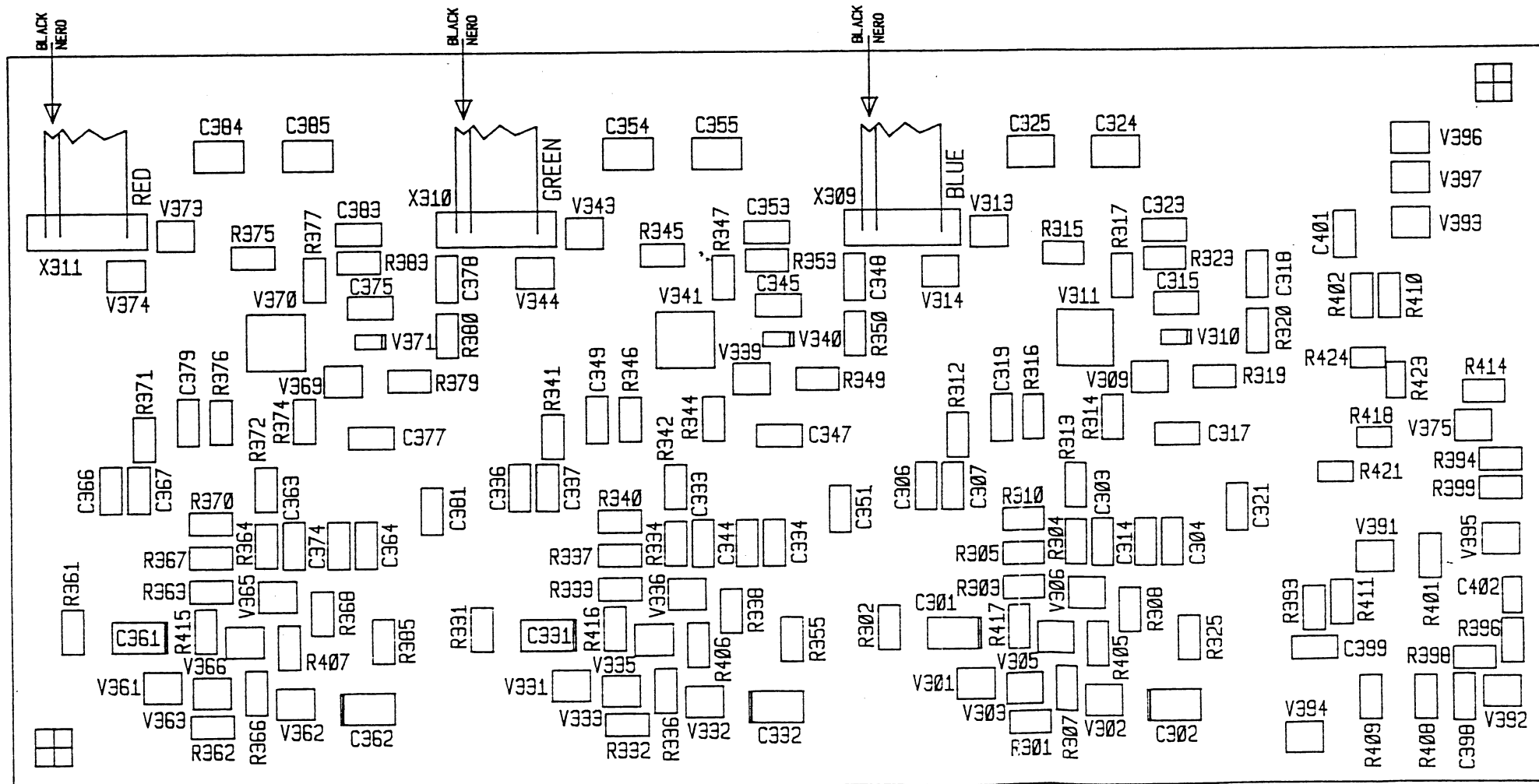




[illegible]



COMPONENT SIDE VIEW
VISTA LATO COMPONENTI



SOLDER SIDE VIEW
VISTA LATO SALDATURE

SOLDER PASTE MASK COMP. SIDE :
MASCH. PASTA SALD. LATO COMP. :

8219 253 3509.3

SEE : SP01
VEDI:

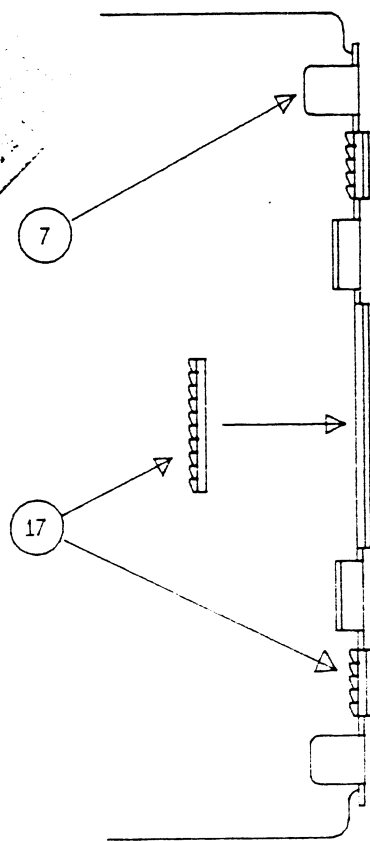
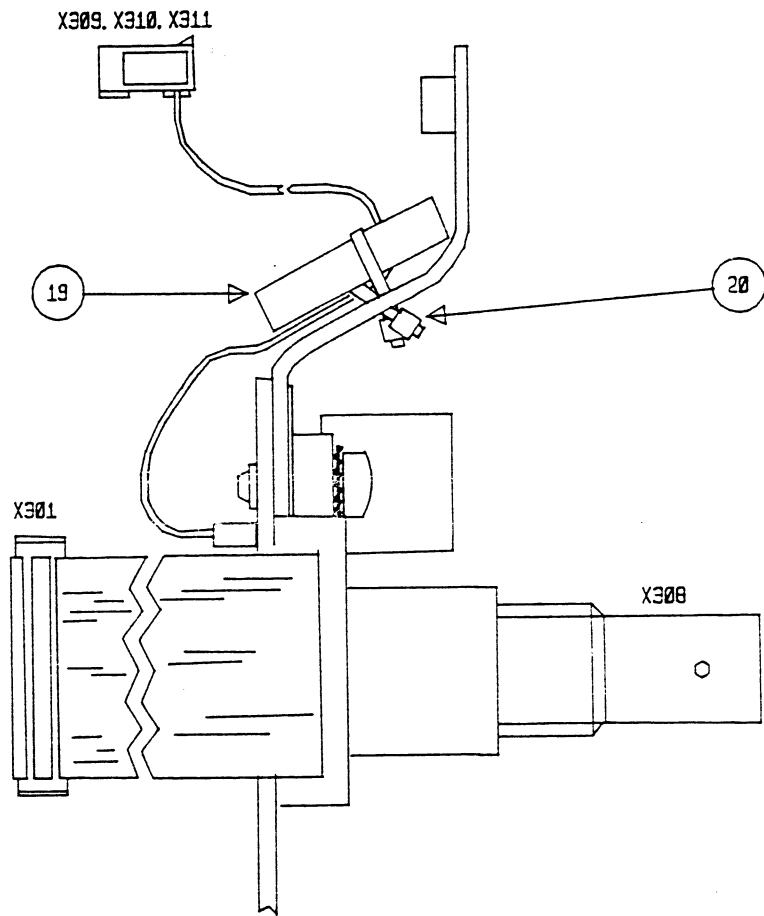
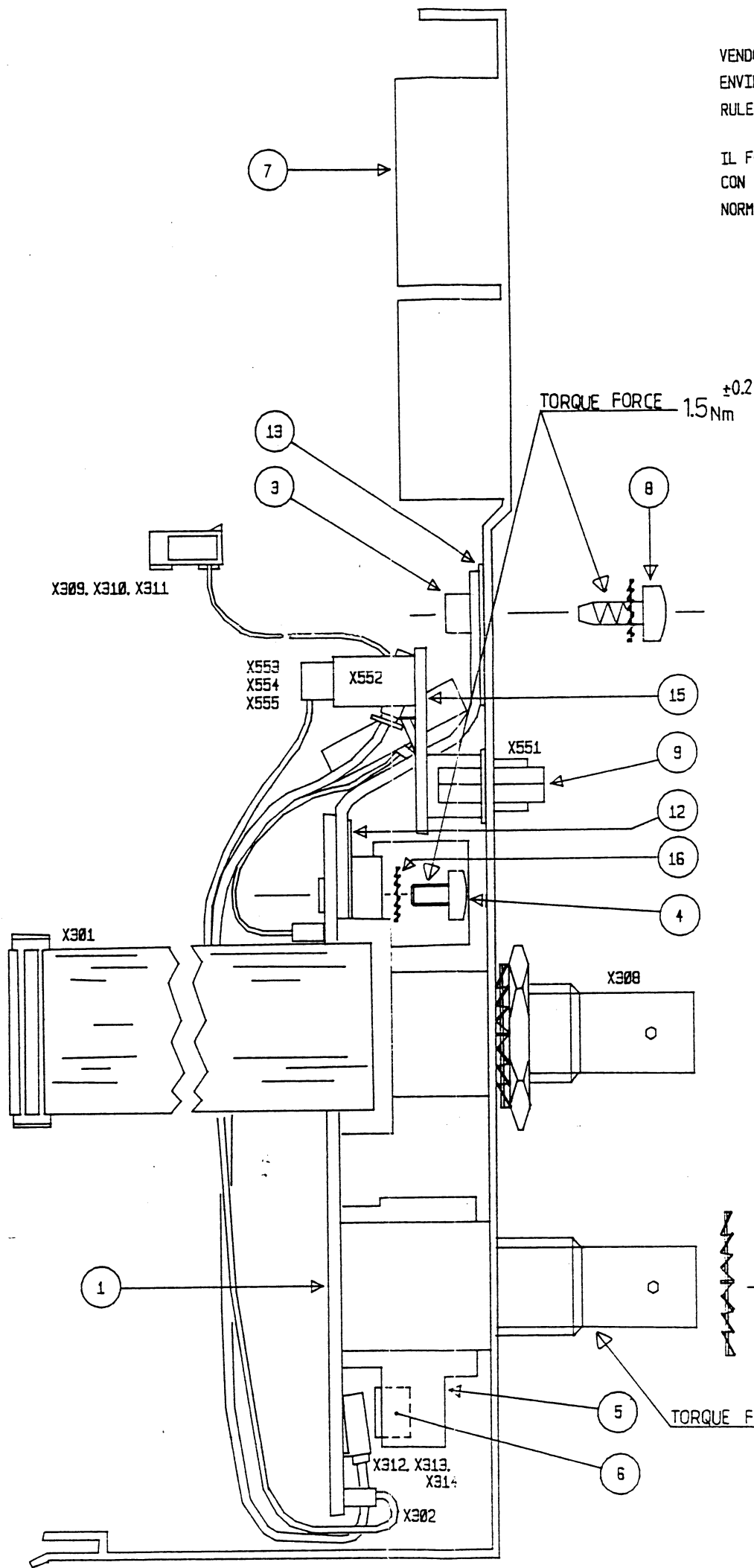
SOLDER PASTE MASK SOLDER SIDE:
MASCH. PASTA SALD. LATO SALD. :

8219 253 3510.3

SEE : SP02
VEDI:

VENDOR SHALL CERTIFY COMPLIANCE WITH THE ENVIRONMENTAL REQUIREMENTS ACCORDING TO RULE : UAN-D1783

IL FORNITORE CERTIFICHERA IN CONFORMITA CON I REQUISITI AMBIENTALI SECONDO LE NORME : UAN-D1783



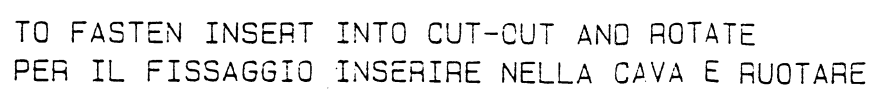
YELLOW SIDE OF THE MAGNET
LATO GIALLO DEL MAGNETE

CLASS NO.	94-02-04	CG	C20/21 DAS/BR	3119 208 6367	1	-
			PCB VIDEO AMPL.		1	94-03-01
	203 3564				1	94-09-21
					1	96-01-11
NAME	GIAMPIERI	SUPERS.	1 SH	SH 110 - 1	-	-
PROPERTY OF	FIMI S. R. L. - R	AND - FABB. SARCINO - ITALY	CHECK	DATE	94-02-04	FORM. AC

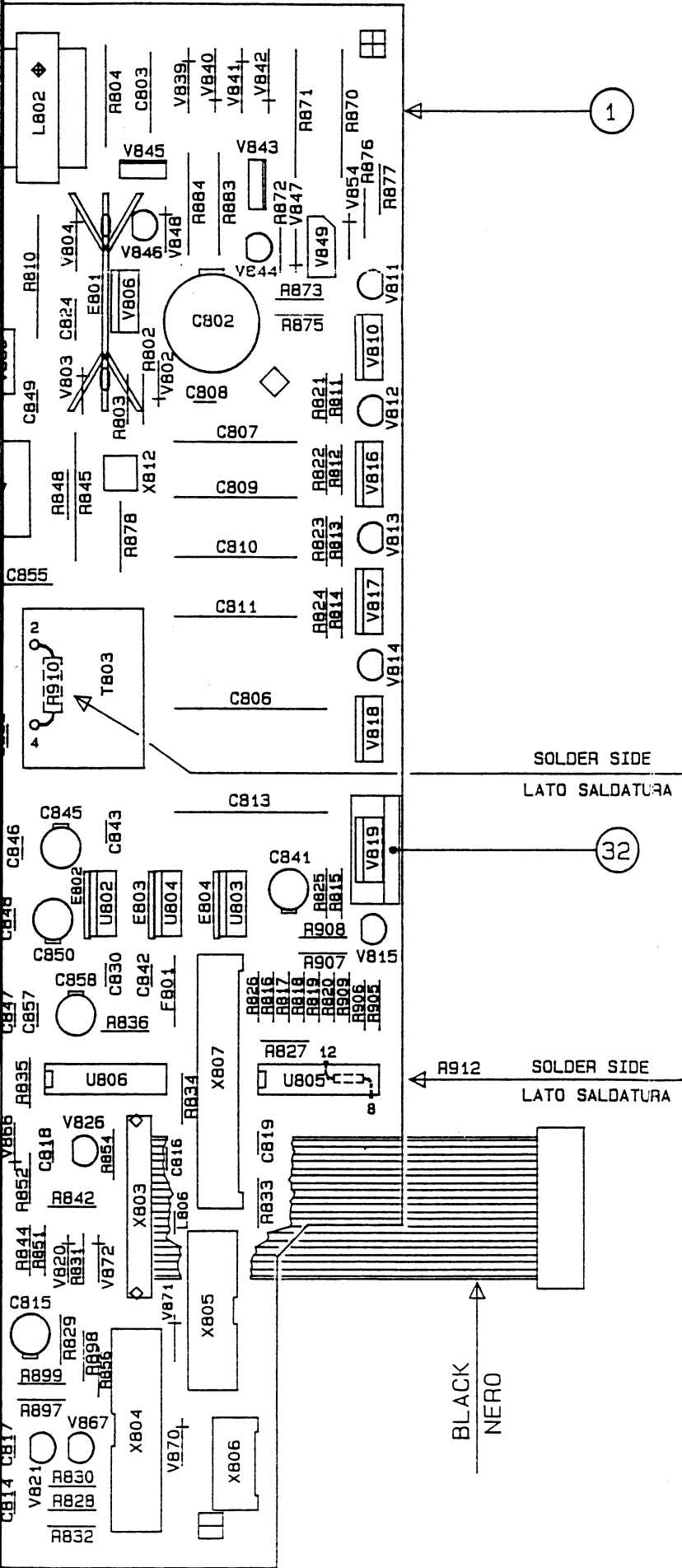
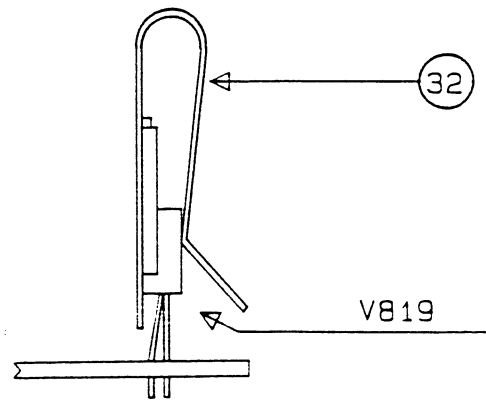
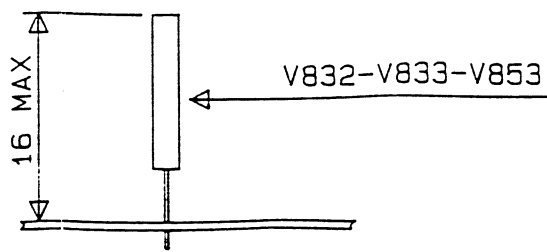
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ALL RIGHTS STRICTLY RESERVED TO THIRD PARTIES IN ANY FORM WITHOUT WRITTEN AUTHORIZATION

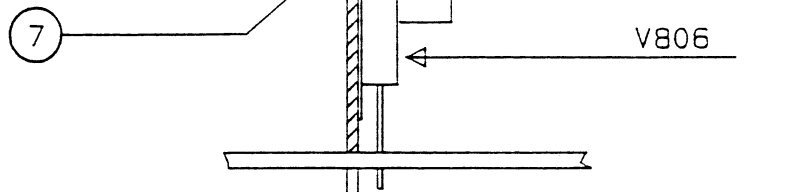
TUTTI I DIRITTI SONO STRETTAMENTE RISERVATI. LA RIPRODUZIONE O LA COMUNICAZIONE A TERZI E VIETATA IN QUALUNQUE FORMA SENZA AUTORIZZAZIONE SCRITTA DELLA PROPRIETARIA.



R804-R810-R837-R845-R870
R871-R883-R884-R885

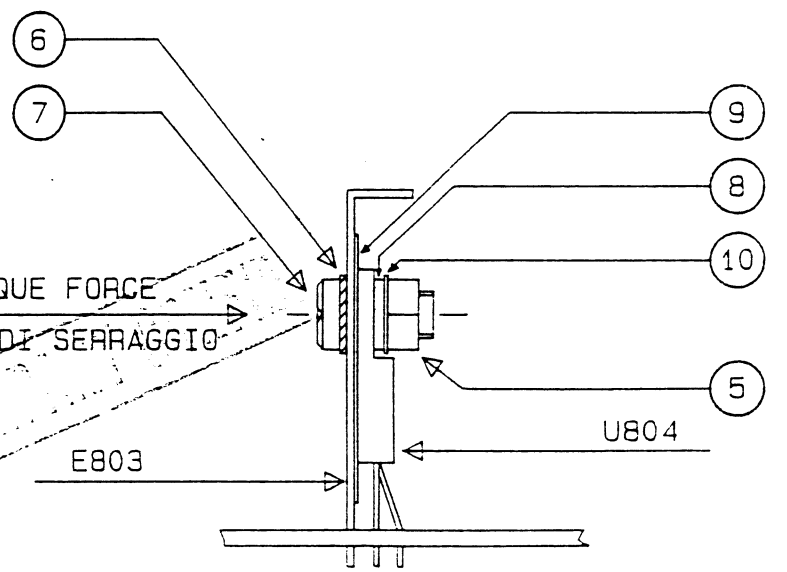


0, 55/0, 8NM TORQUE FORCE
COPPIA DI SERRAGGIO

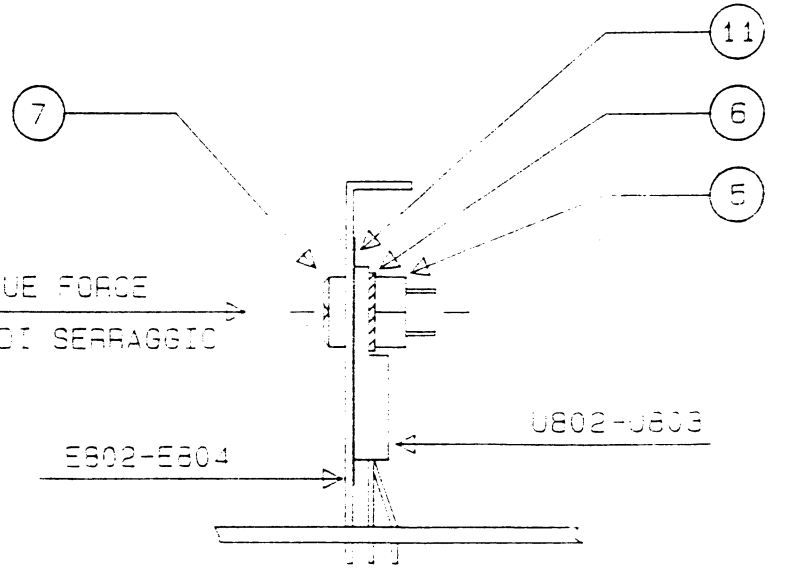


TWIST THE ENDS
TORCERE I TERMINALI

0, 55/0, 8NM TORQUE FORCE
COPPIA DI SERRAGGIO



0, 55/0, 8NM TORQUE FORCE
COPPIA DI SERRAGGIO

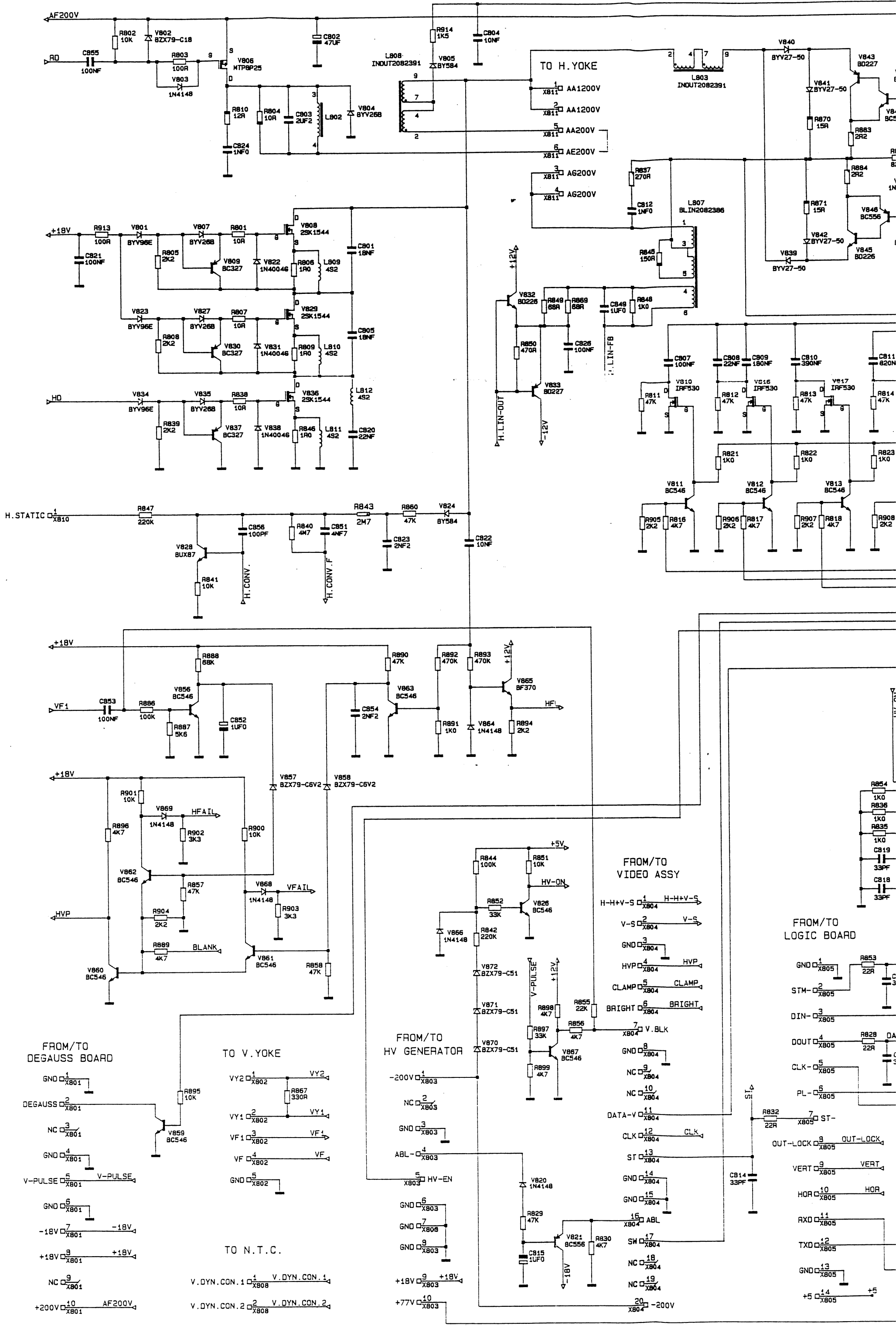


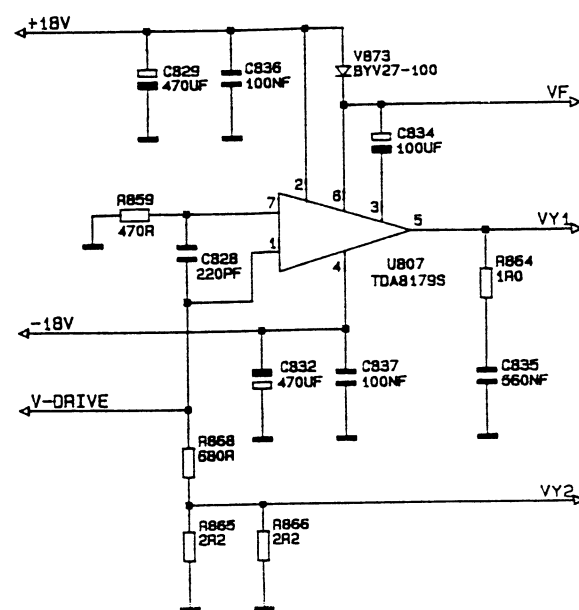
VENDOR SHALL CERTIFY COMPLIANCE WITH THE
ENVIRONMENTAL REQUIREMENTS ACCORDING TO
RULE : UAN-01783

IL FORNITORE DEVE CERTIFICARE QUANTO
PREVISTO DALLA NORMA UAN-01783

CLASS NO.	C2082DAS		3	93-09-22
3119 203 3578	MAIN BOARD		3	94-02-16
	ASSY		1	92-10-01
NAME A. VILLA	SUPERS.	1 SH.	2	92-10-16
PROPERTY OF FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY			CHECK	DATE 91-11-19 FORM. A2

I
H
G
F
E
D
C
B
A





PCB LOW LEVEL SIGNALS
3119 208 6230

